



#12⁴¹
10.15.02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of : Confirmation No. 3379
Mitsuaki OSHIMA et al. : Docket No. 2000_1422
Serial No. 09/686,466 : Group Art Unit 2634
Filed October 12, 2000 : Examiner A. Le
COMMUNICATION SYSTEM :

RECEIVED

OCT 11 2002

Technology Center 2600

THE COMMISSIONER IS AUTHORIZED
TO CHARGE ANY DEFICIENCY IN THE
FEES FOR THIS PAPER TO DEPOSIT
ACCOUNT NO. 23-0975

SUBMISSION OF FORMAL DRAWINGS

Assistant Commissioner for Patents,
Washington, D.C.

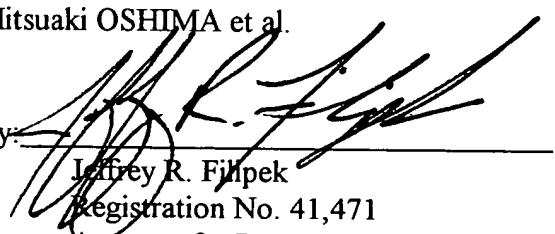
Sir:

As required by the Examiner in the Office Action mailed April 9, 2002, 178 sheets of formal (8½ x 11) drawings (Figs. 1-179) are submitted herewith.

Respectfully submitted,

Mitsuaki OSHIMA et al.

By: _____


Jeffrey R. Filpek
Registration No. 41,471
Attorney for Patentees

JRF/fs
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
October 9, 2002

FIG. 1

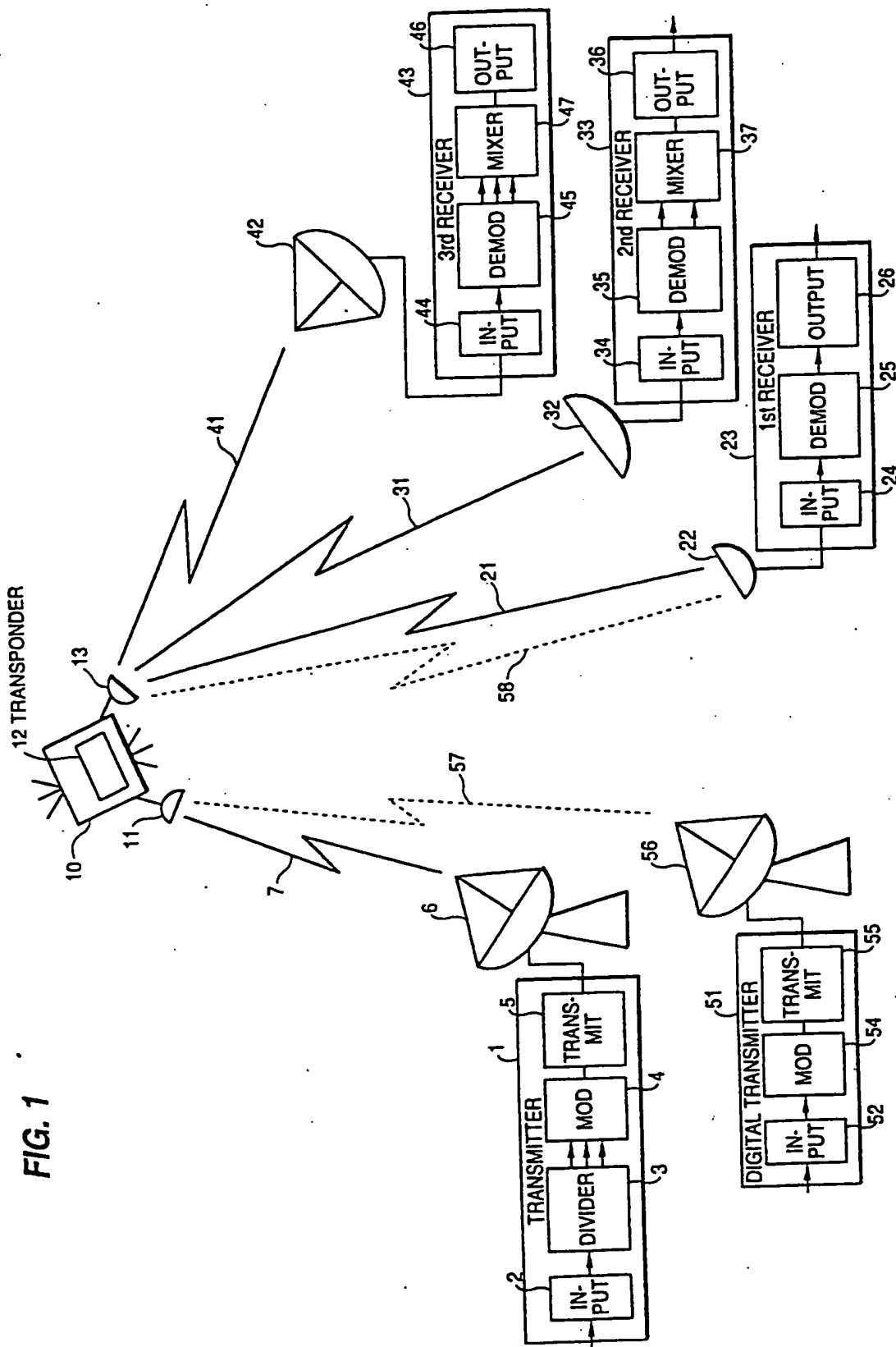


FIG. 2 (Amended)

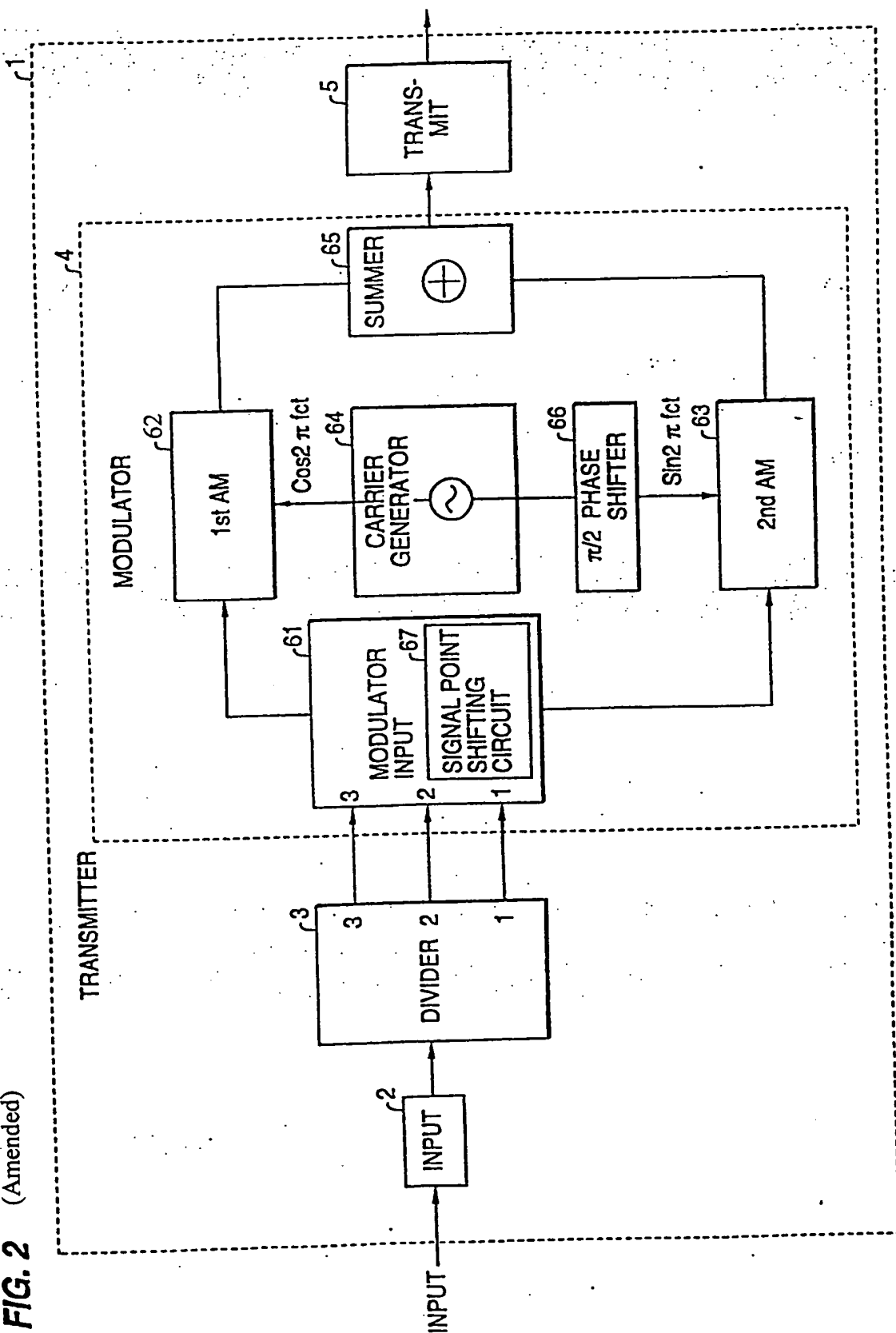


FIG. 3

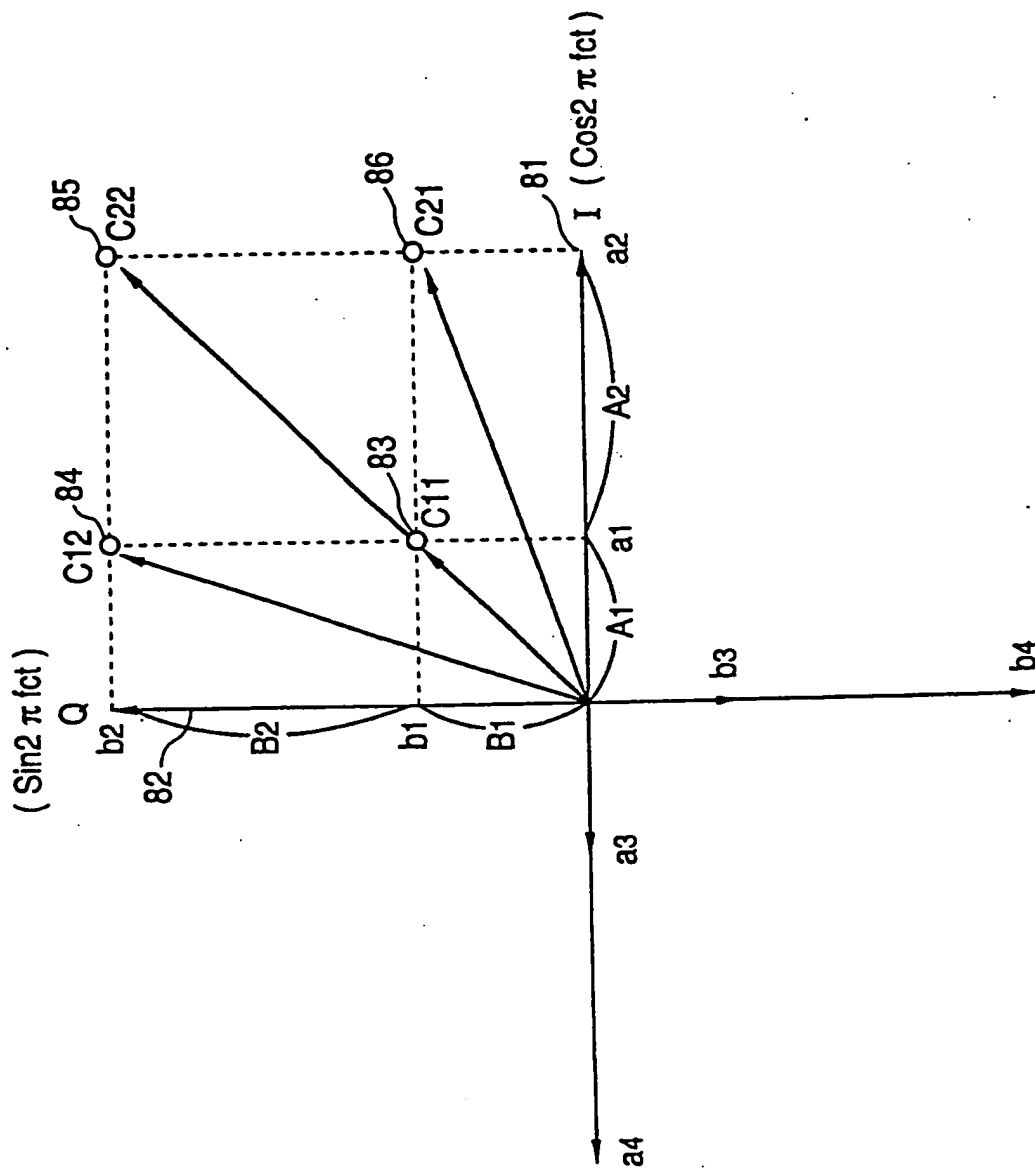


FIG. 4

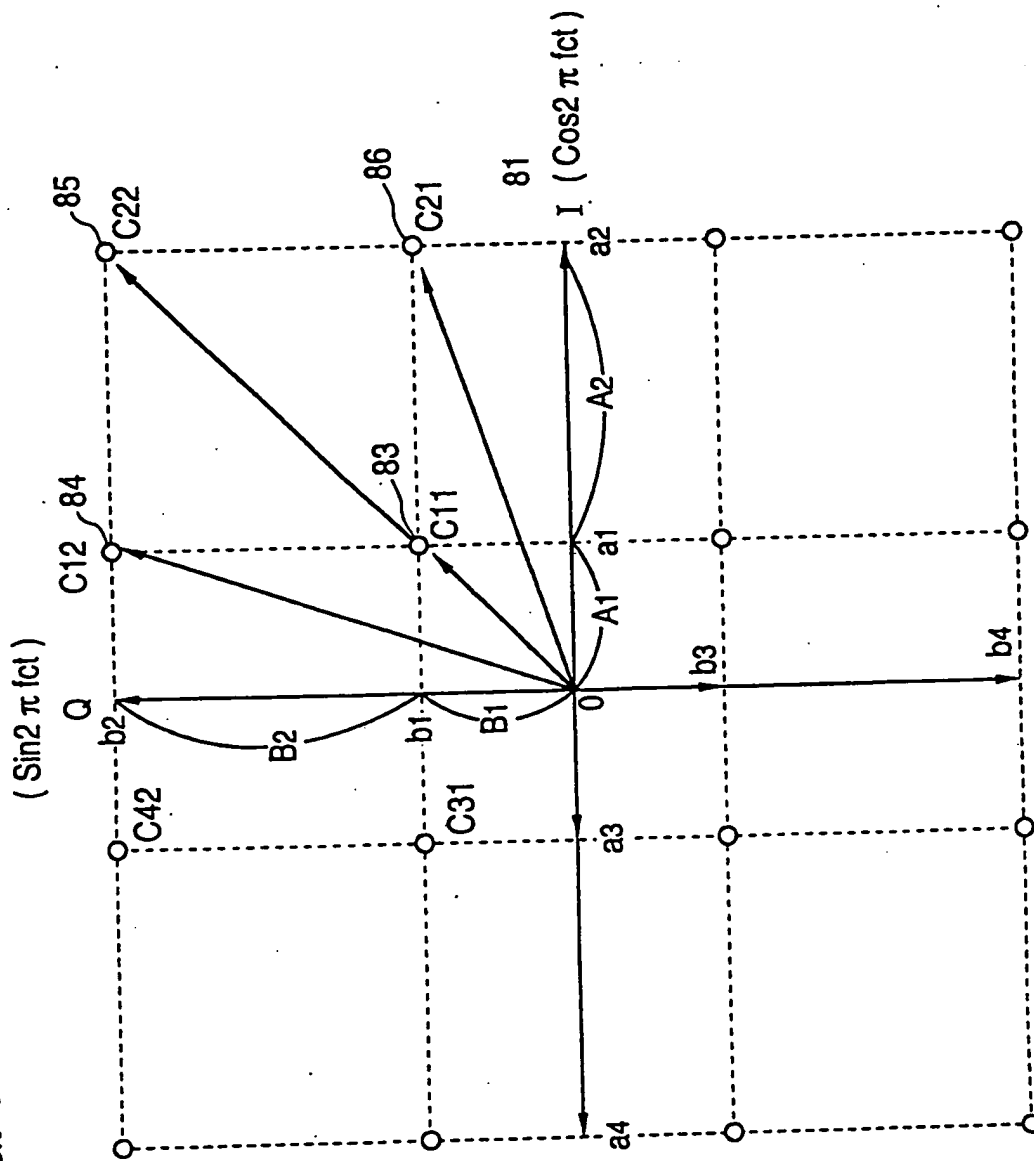


FIG. 5

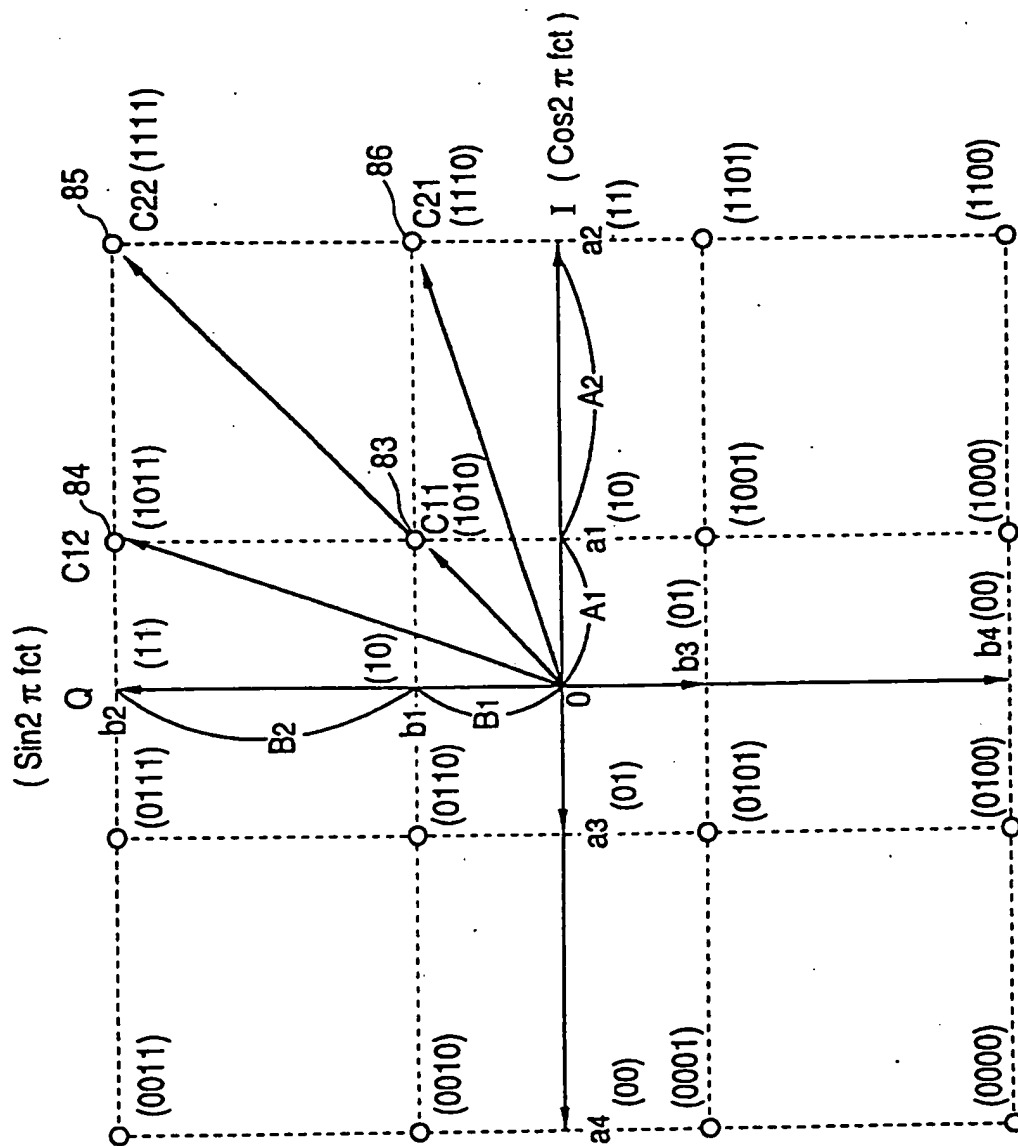


FIG. 6

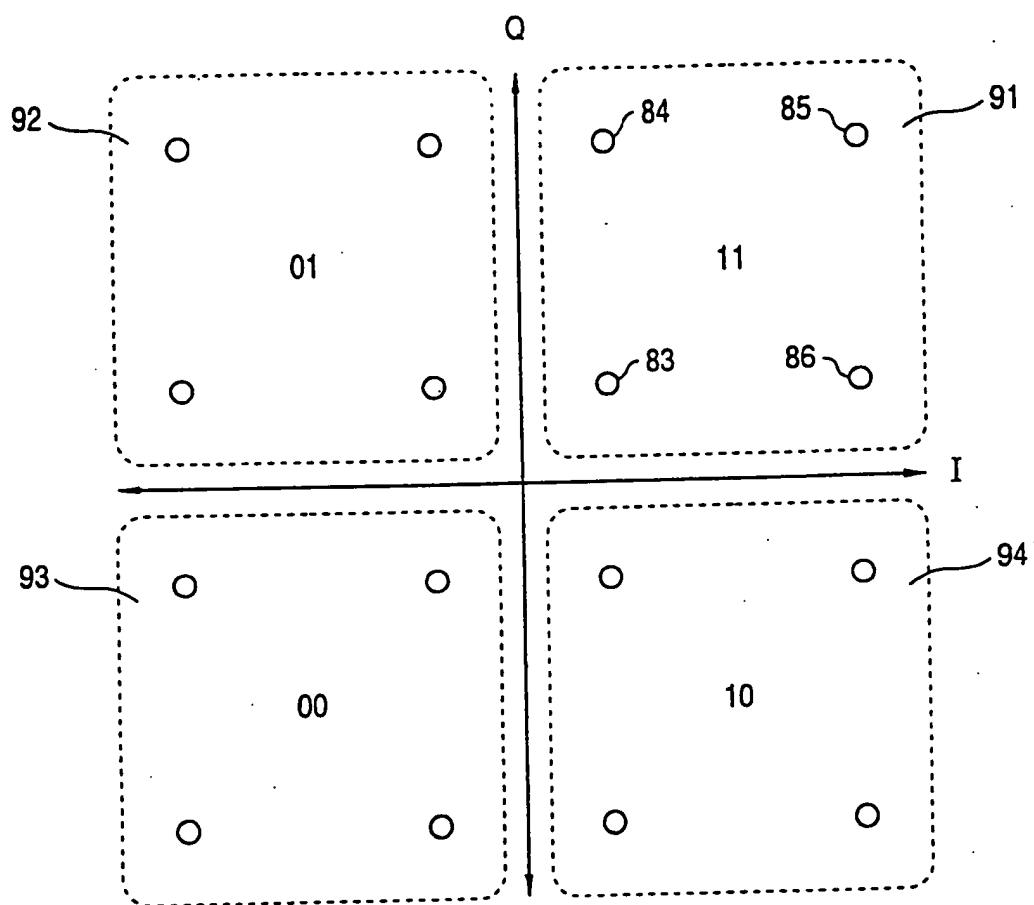


FIG. 7

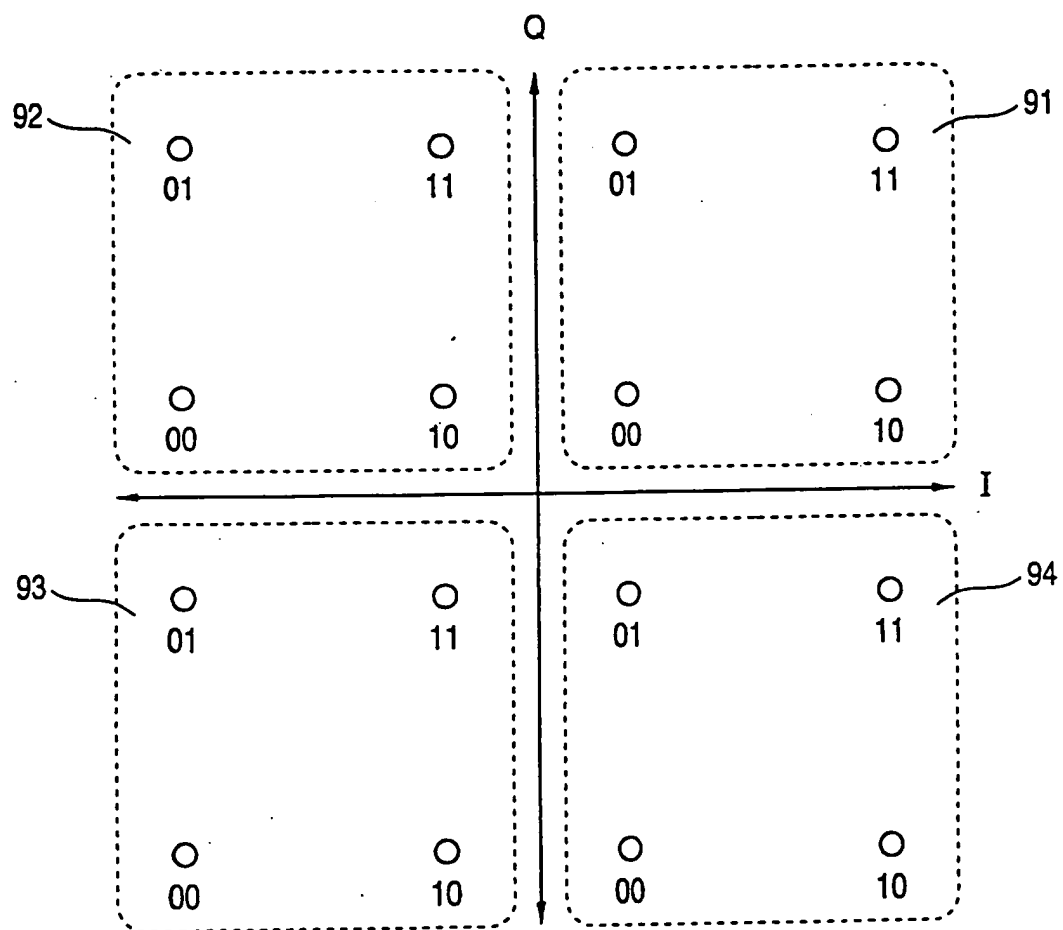


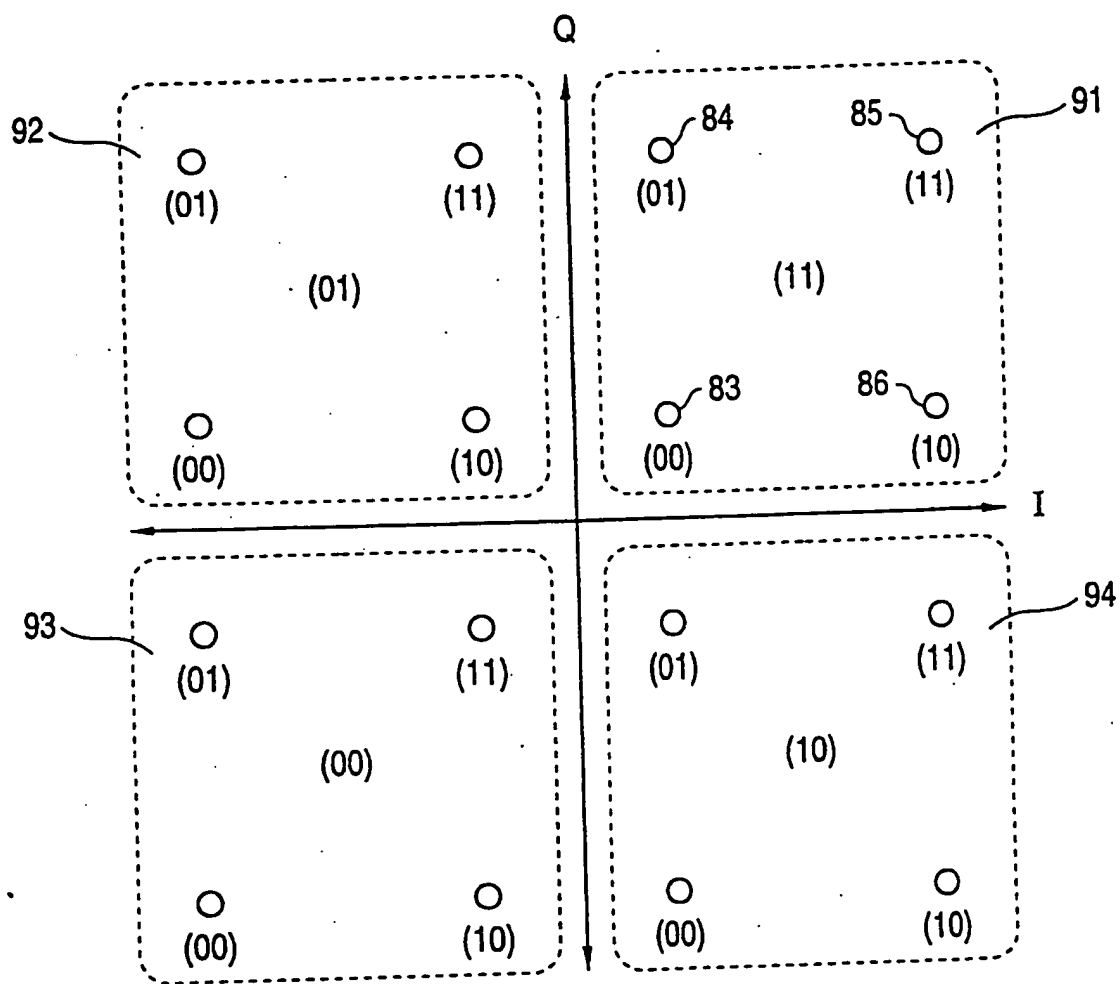
FIG. 8

FIG. 9

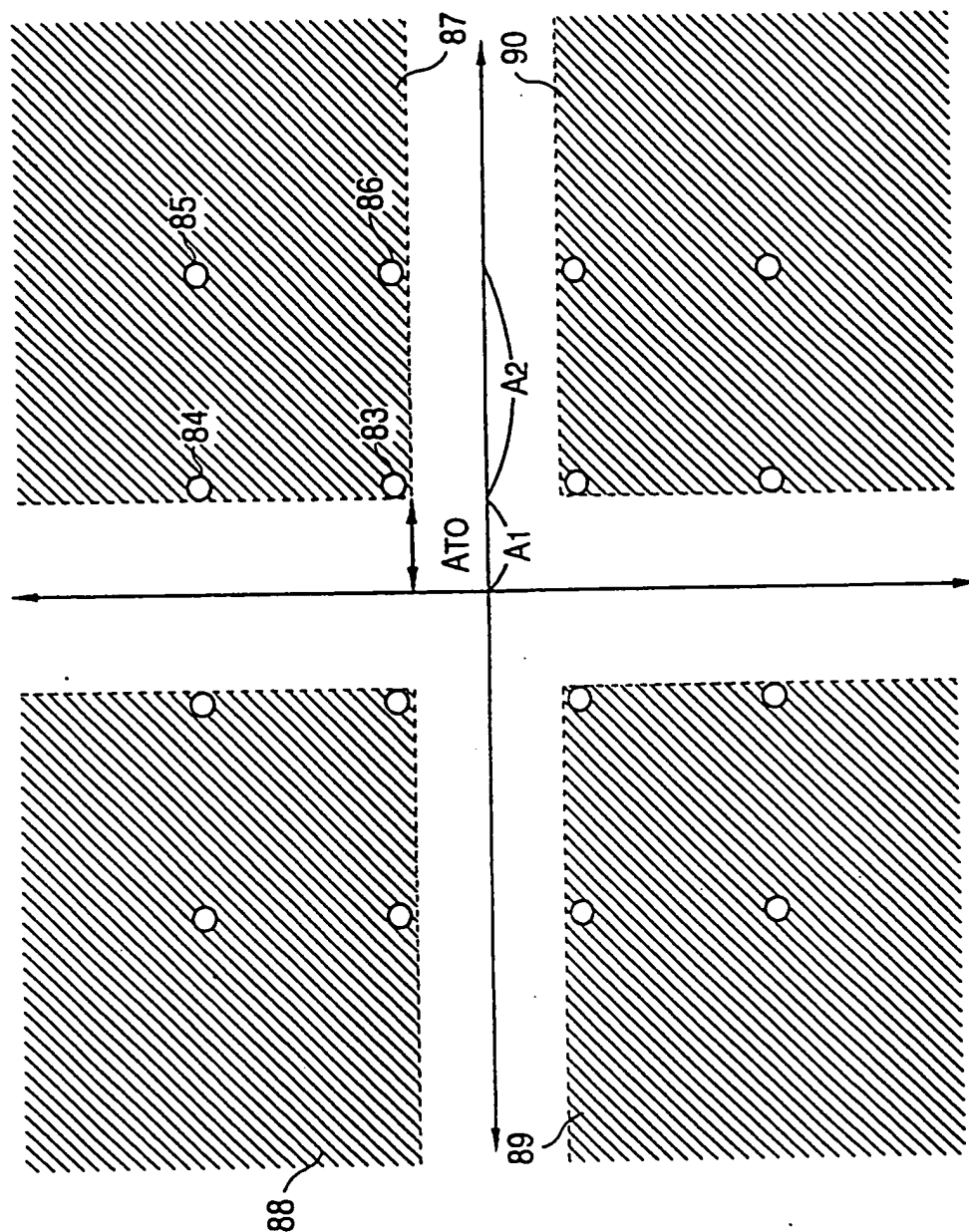


FIG. 10 (Amended)

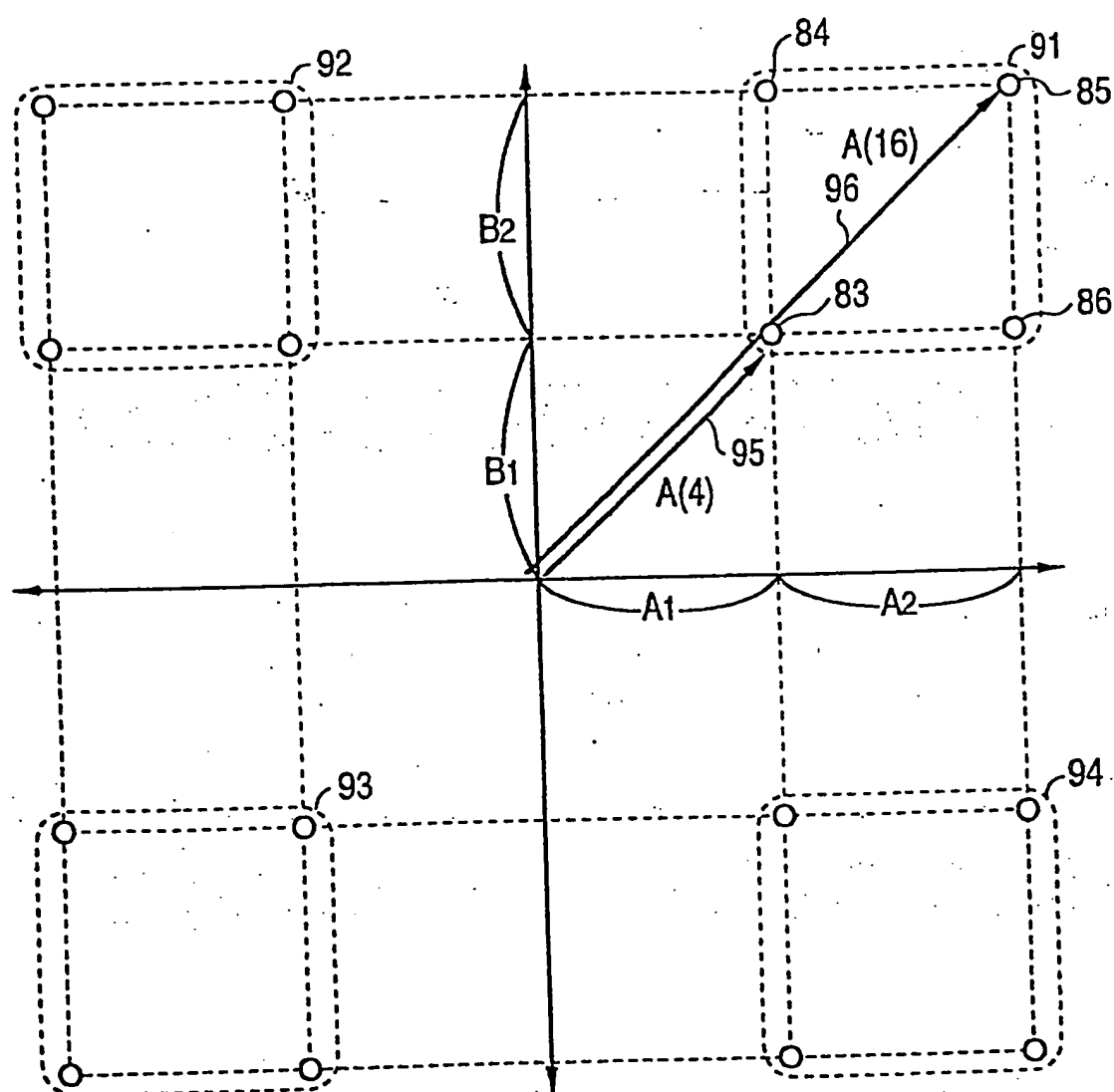


FIG. 11

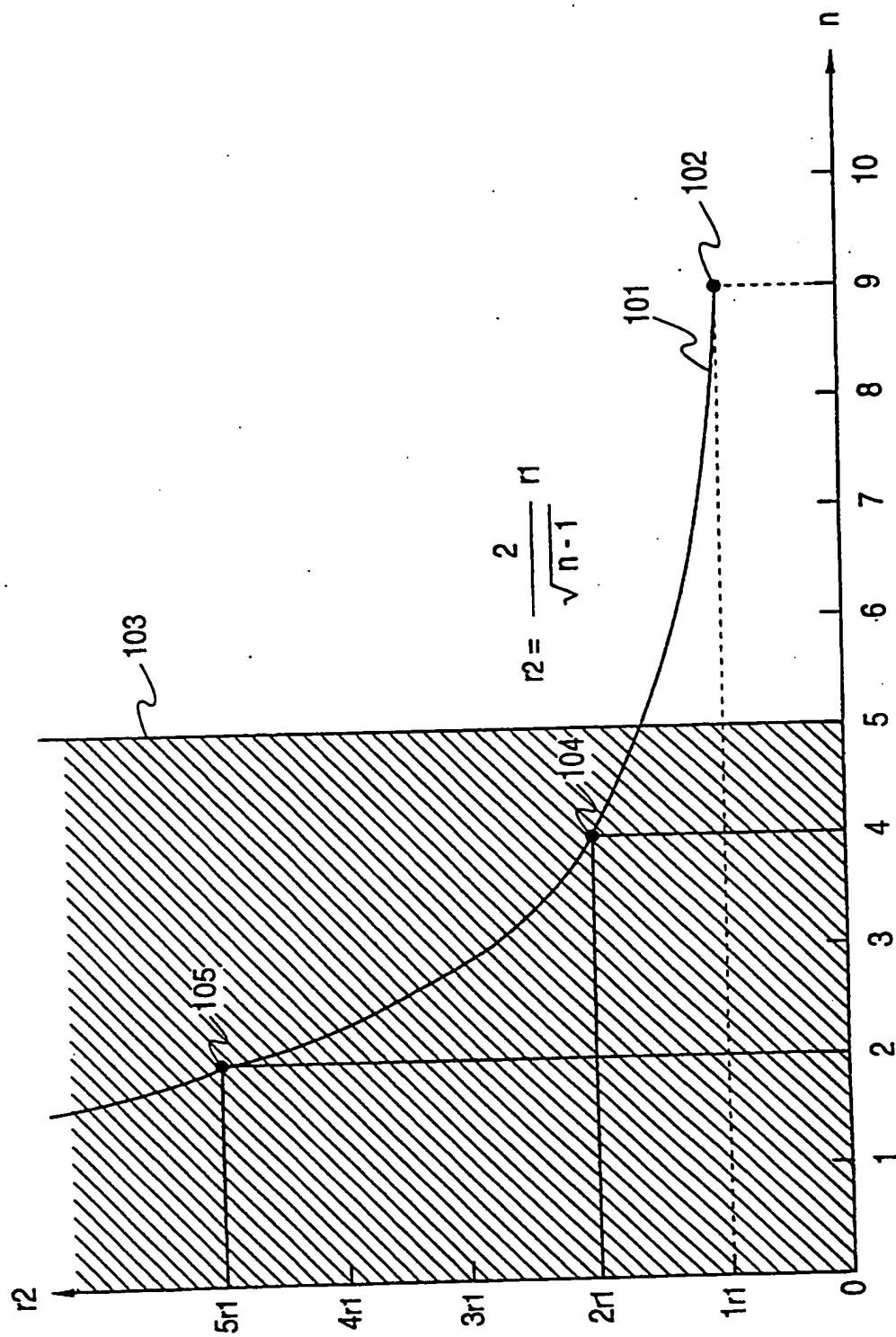


FIG. 12

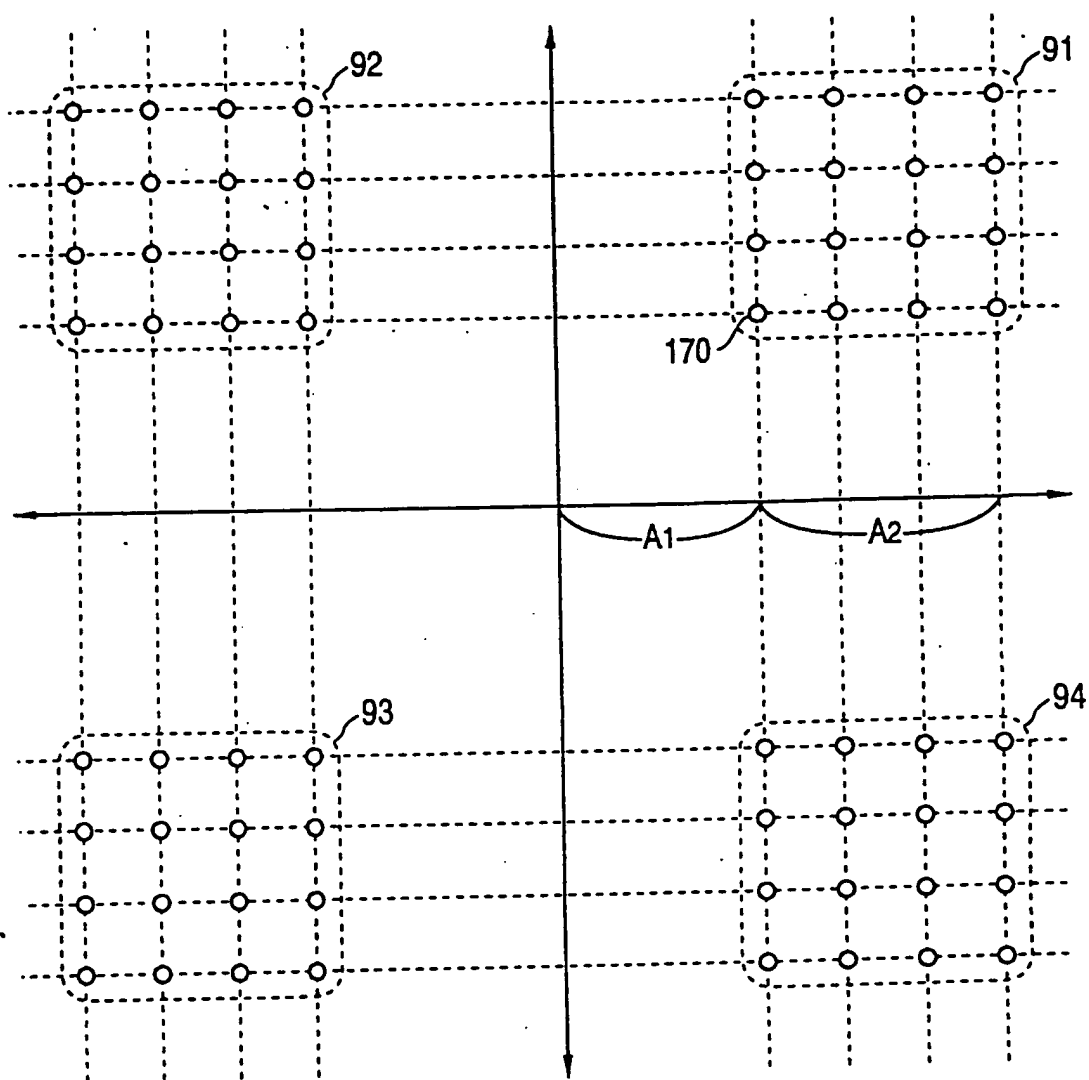


FIG. 13

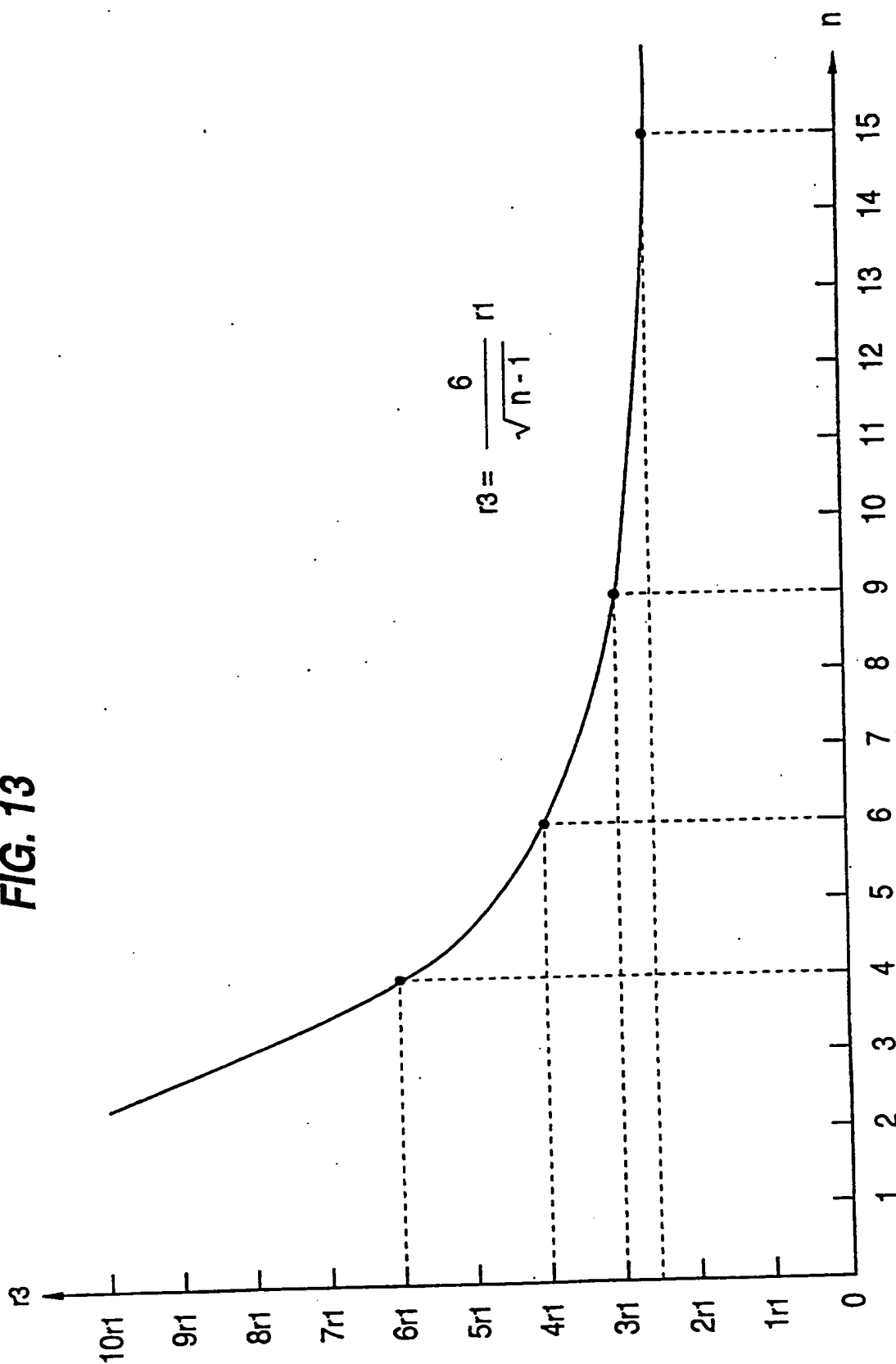


FIG. 14

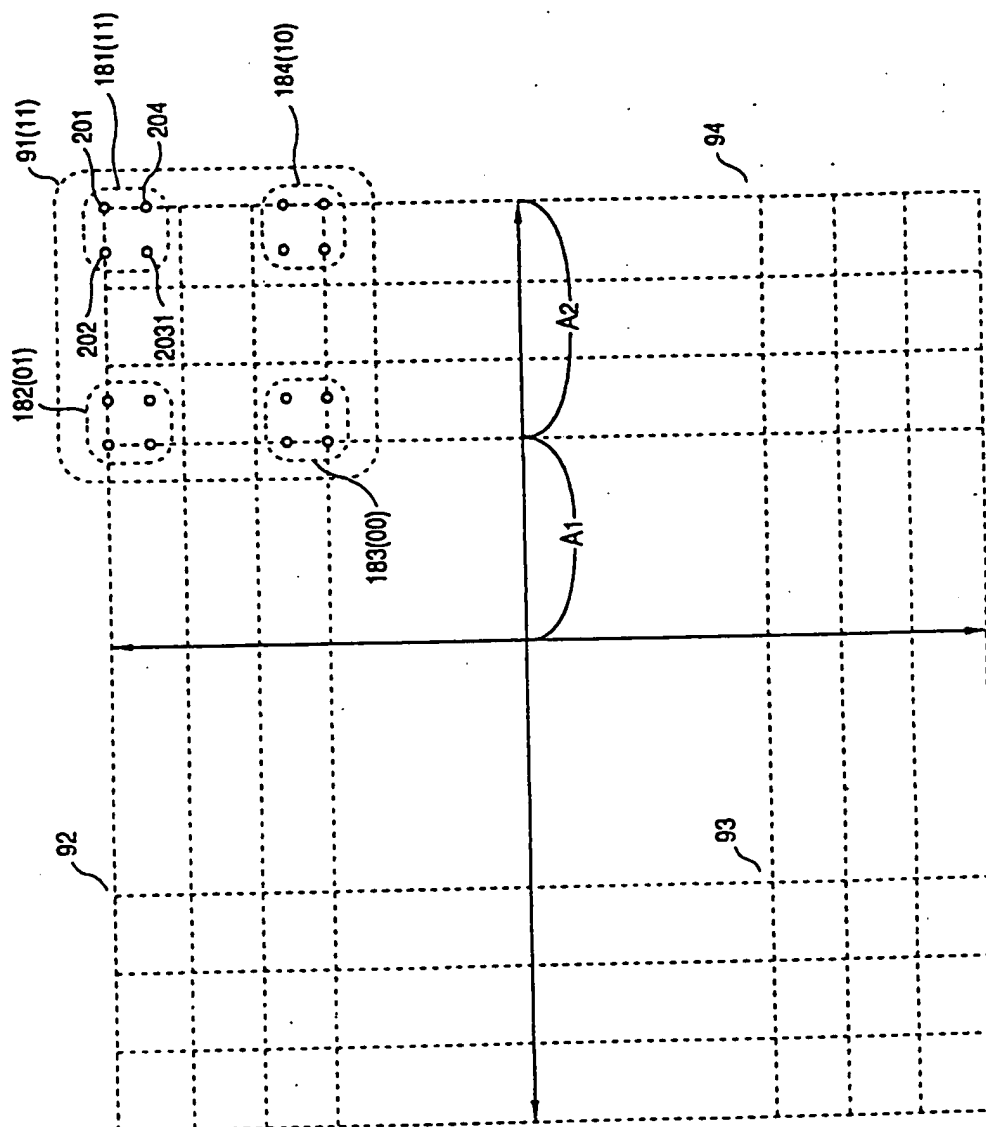


FIG. 15

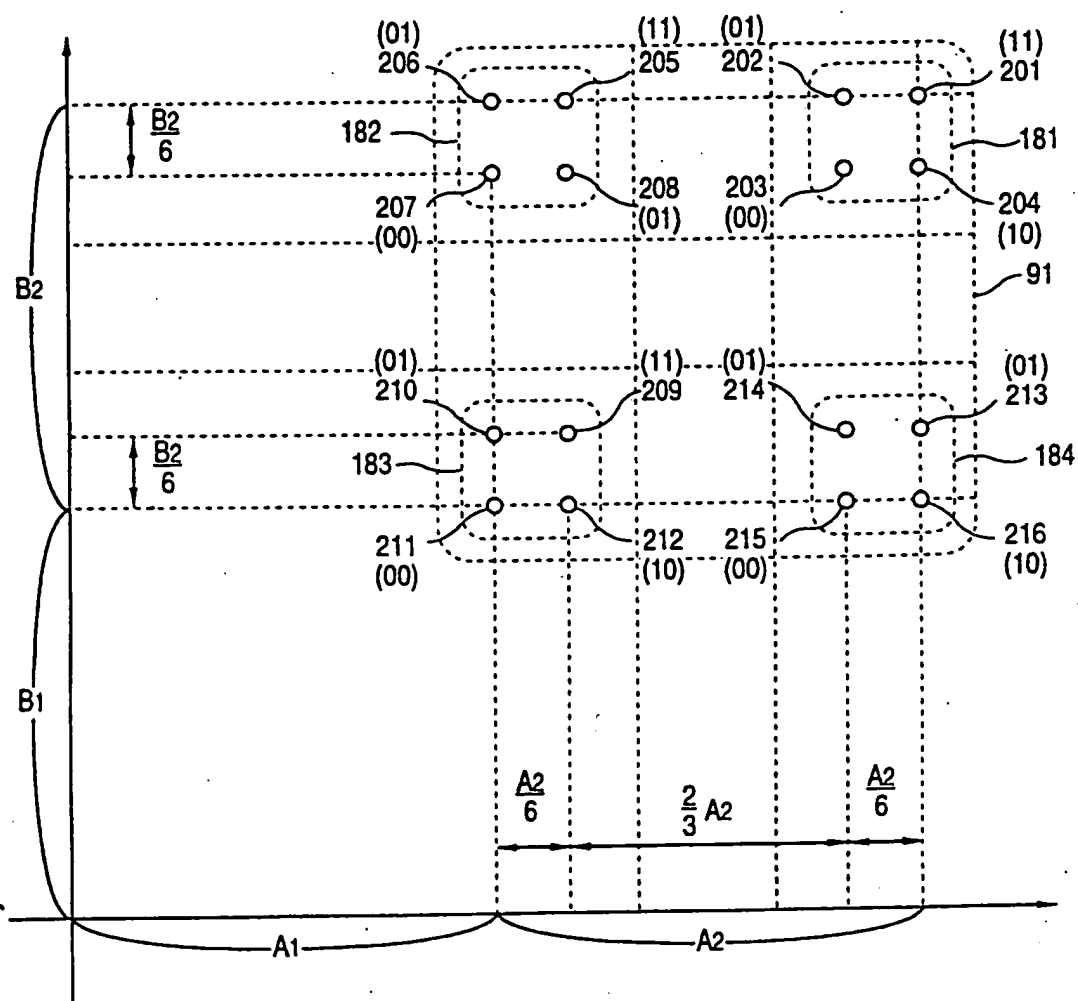


FIG. 16

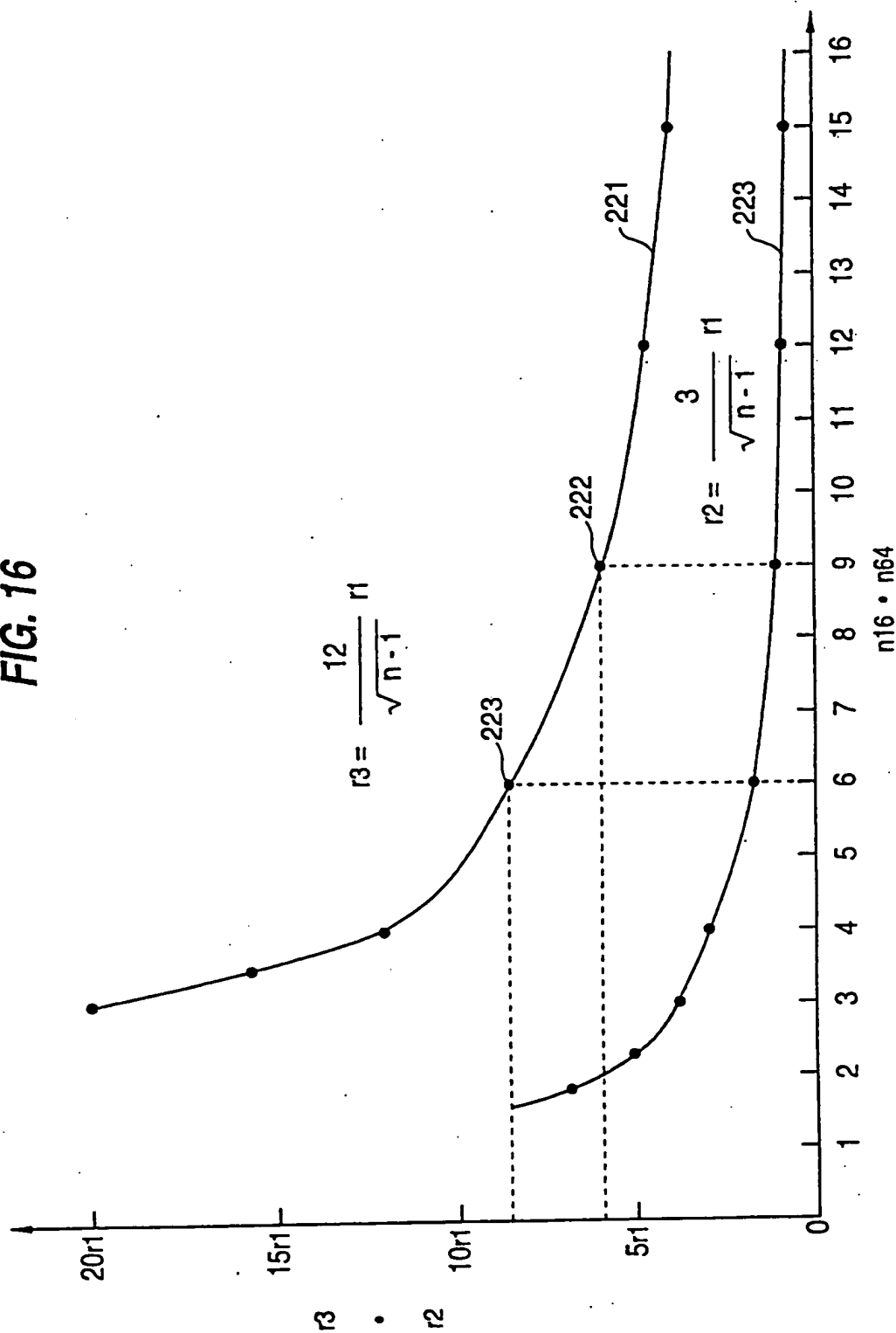


FIG. 17 (Amended)

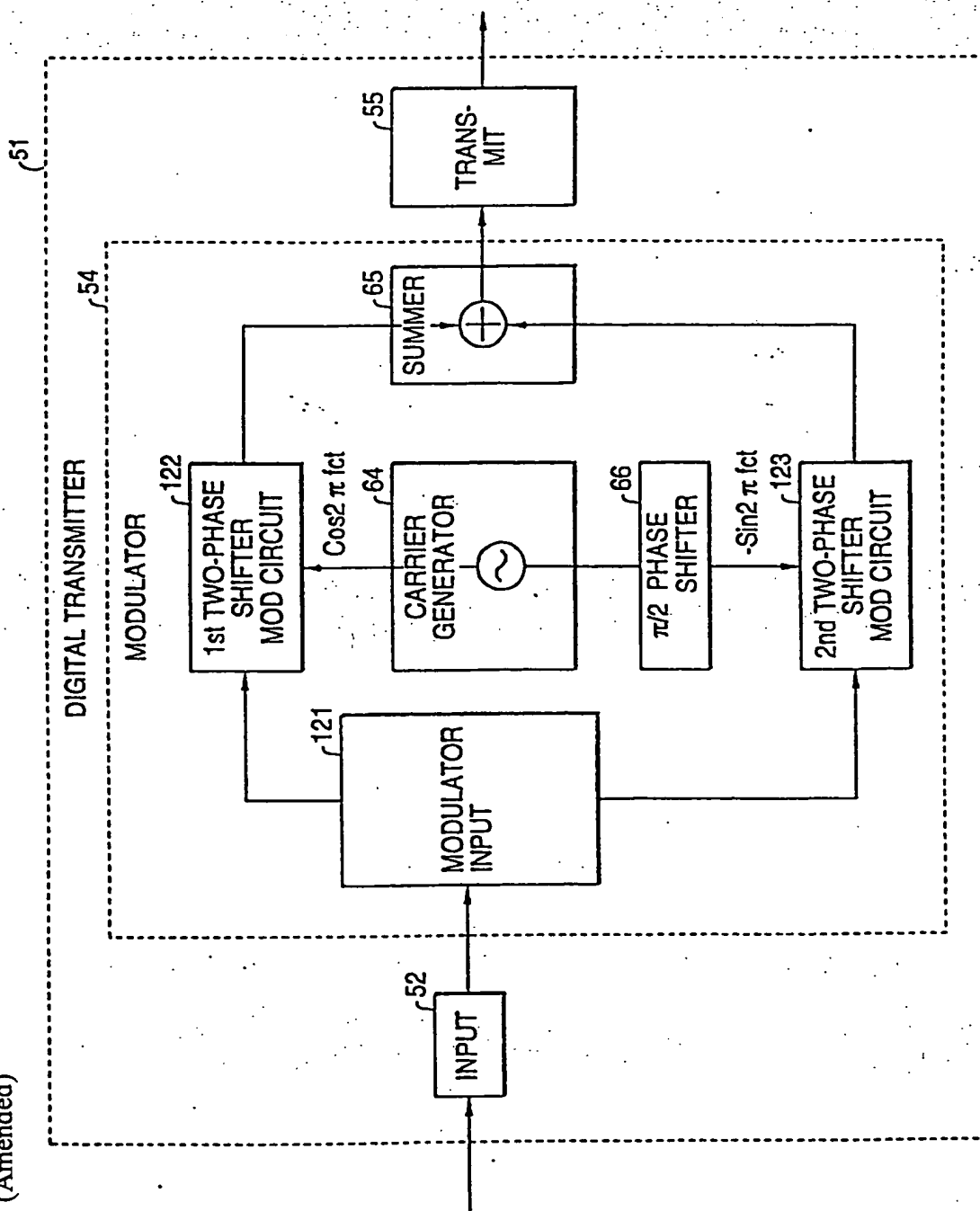


FIG. 18

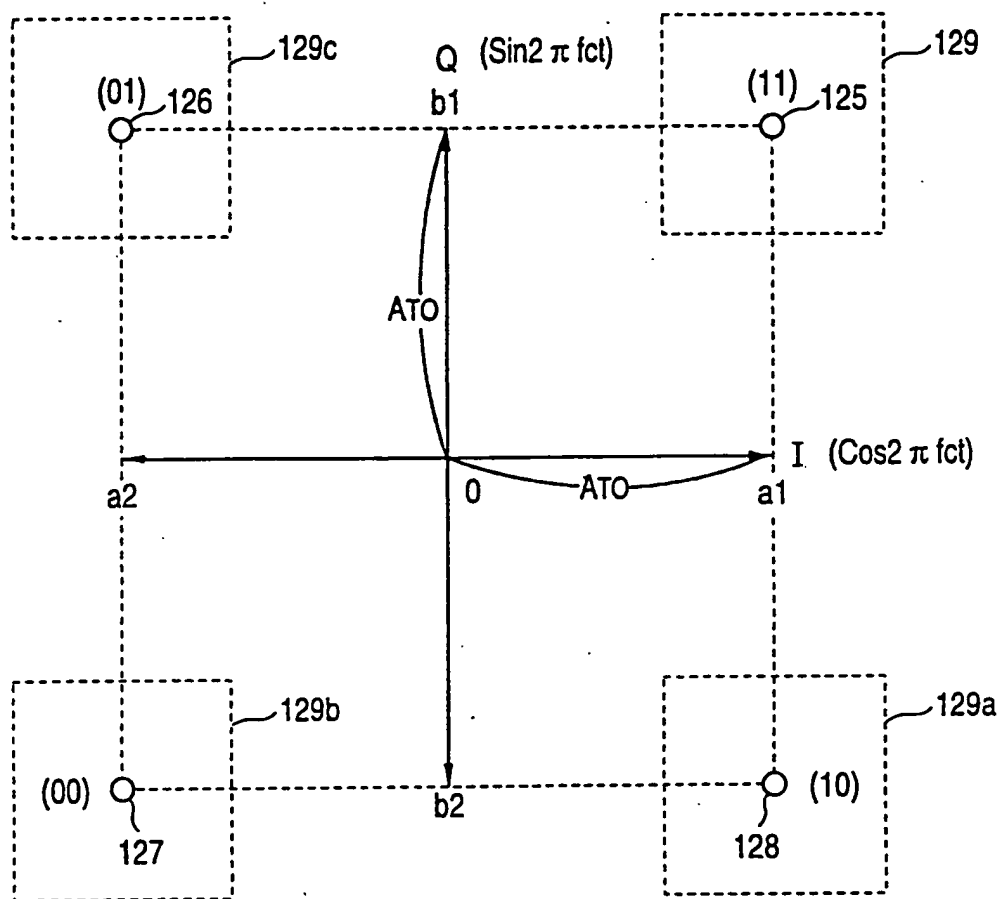


FIG. 19

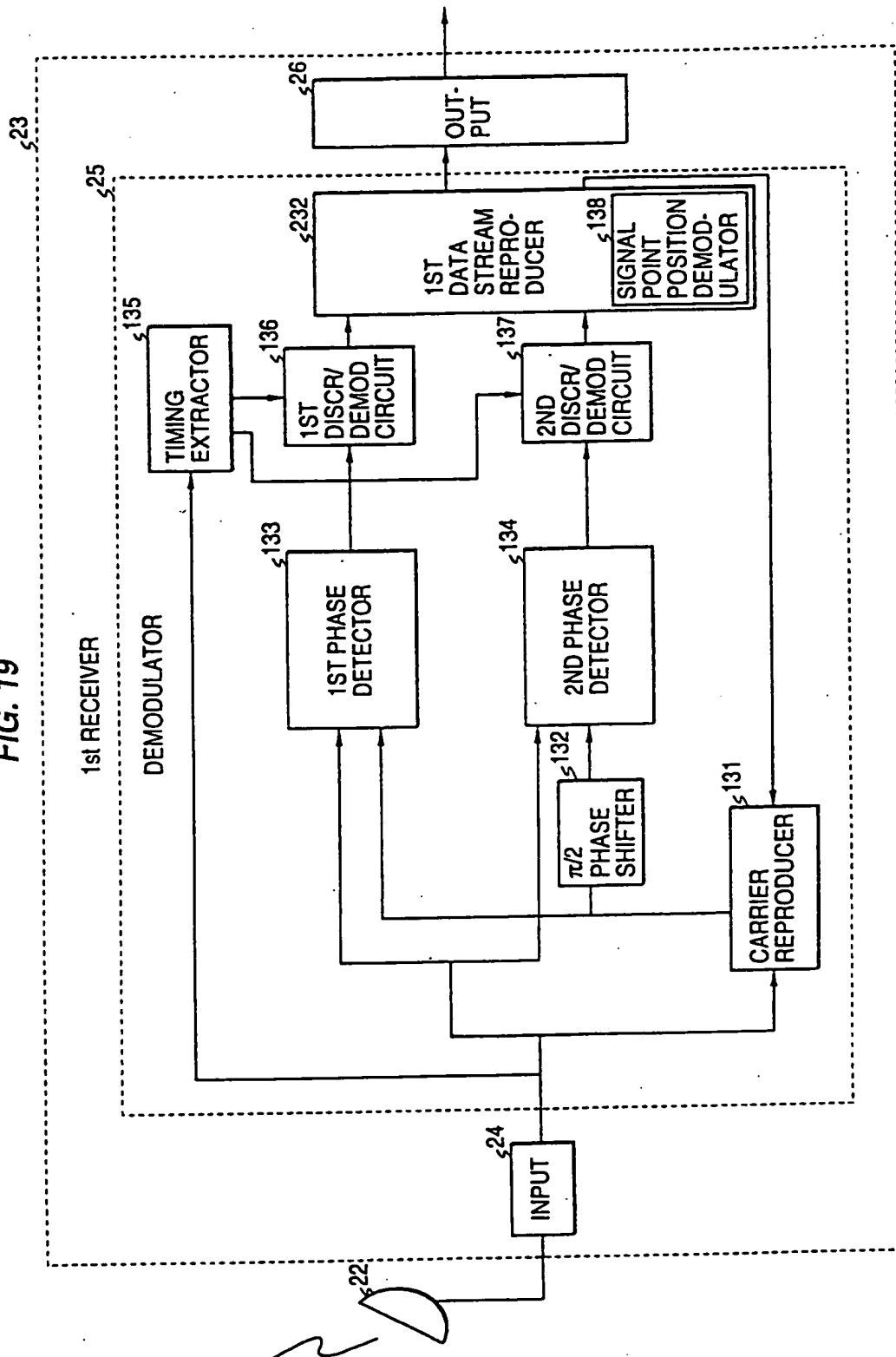


FIG. 20

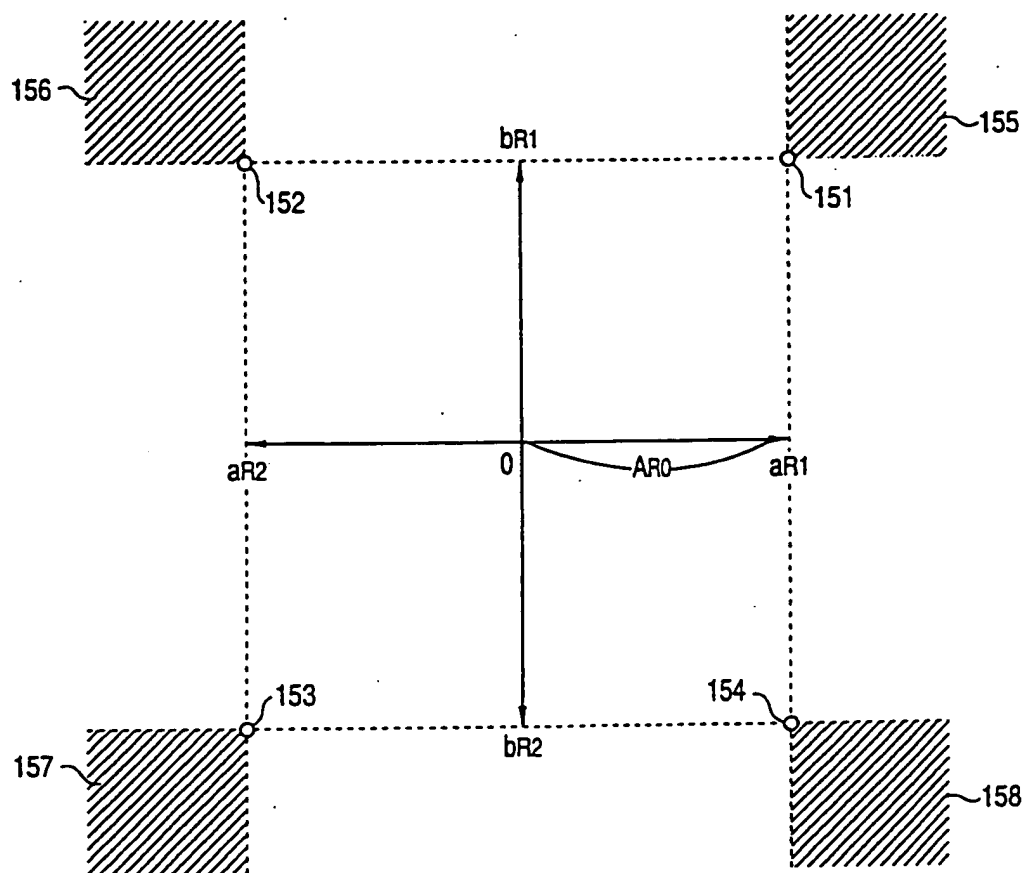


FIG. 21

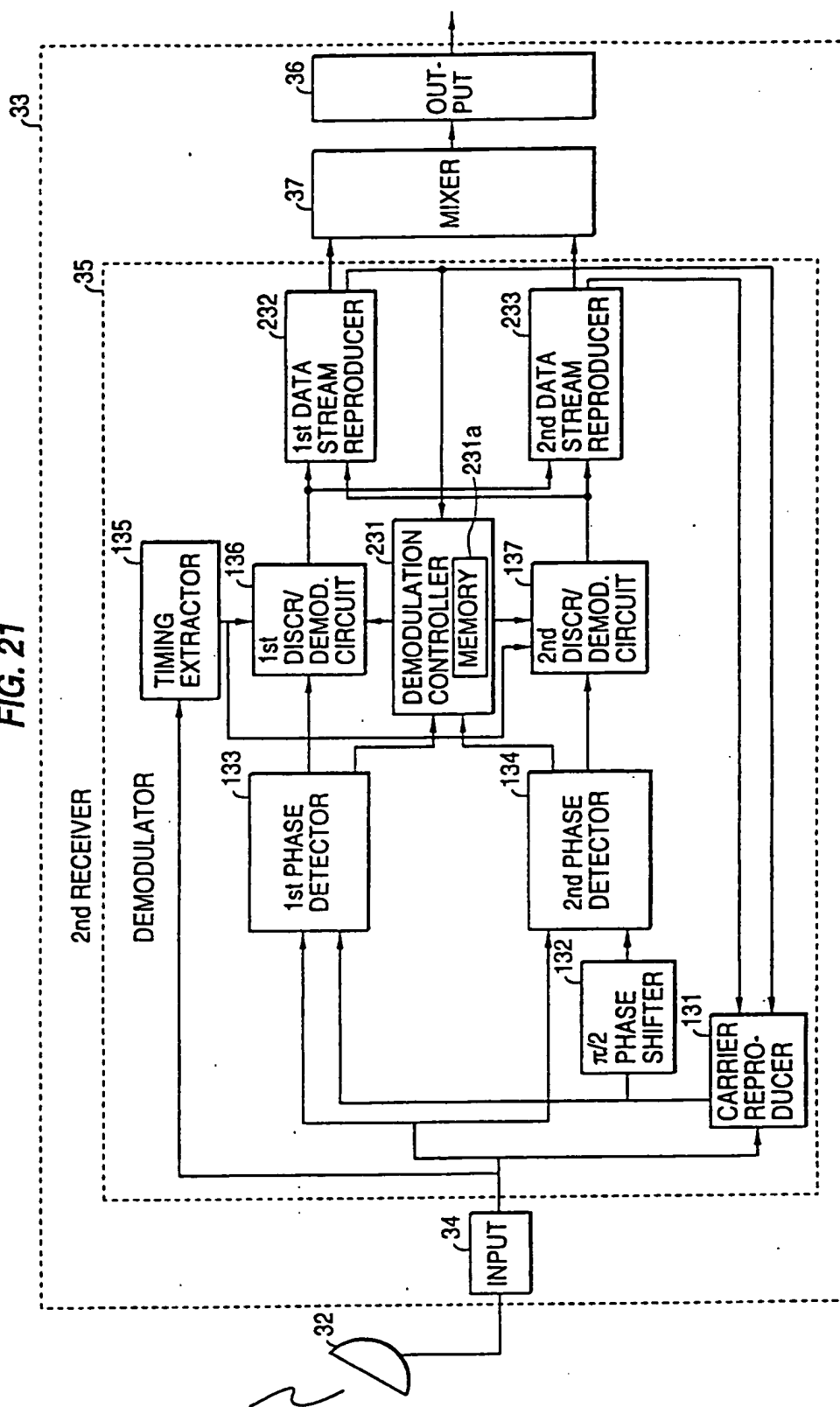


FIG. 22

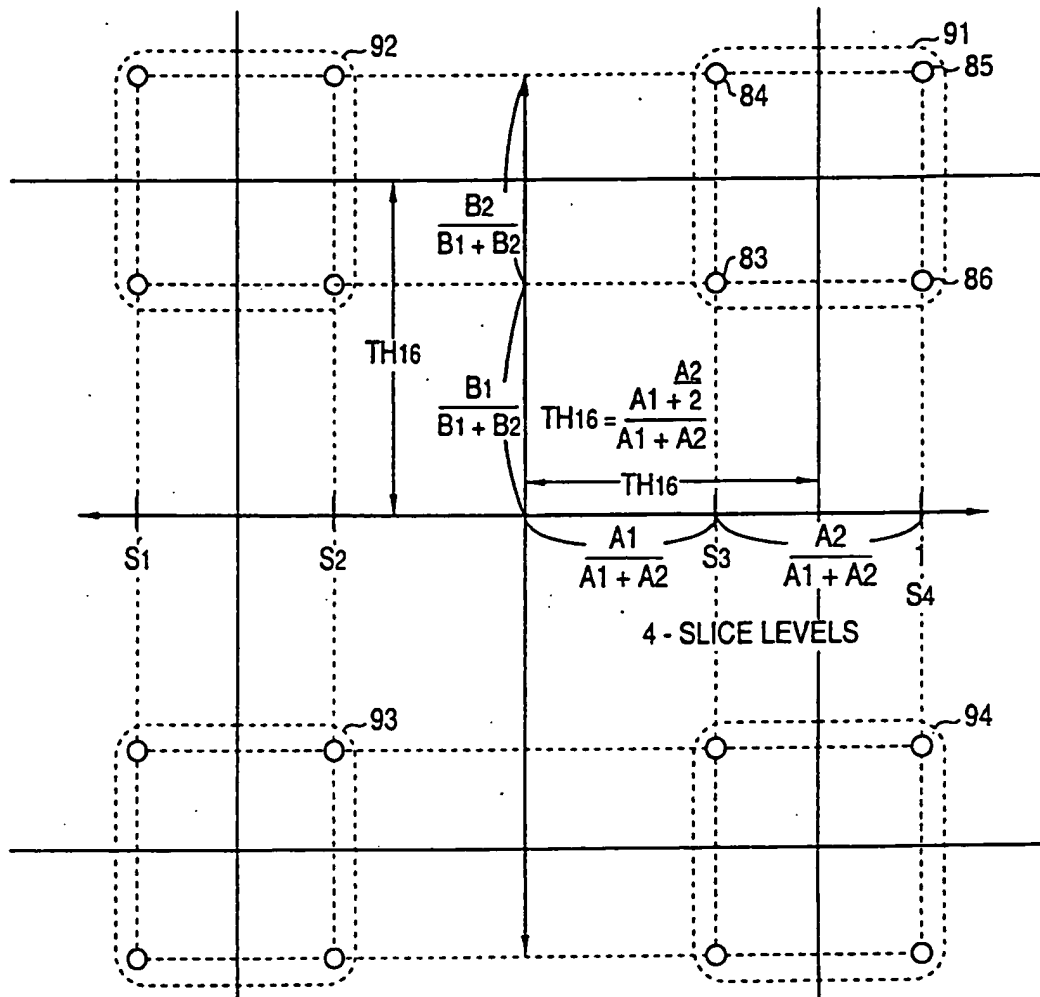


FIG. 23

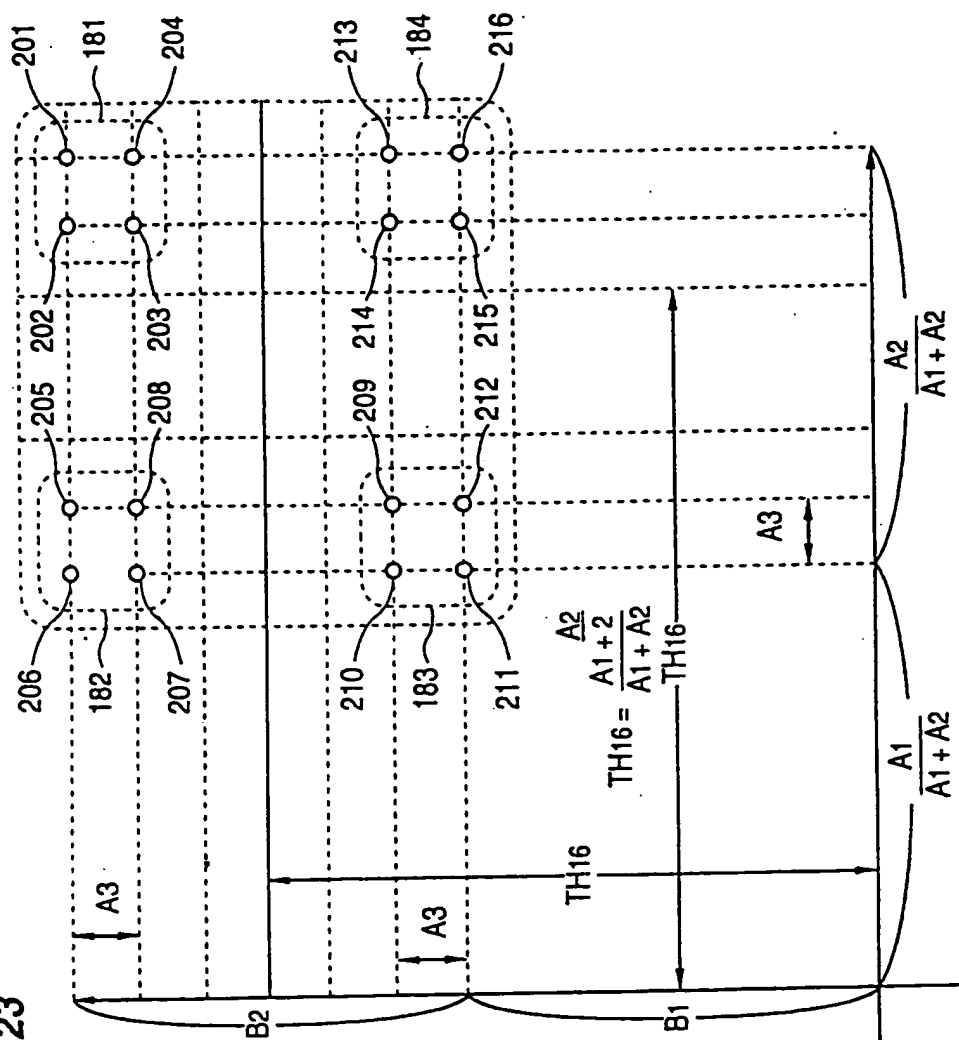


FIG. 24

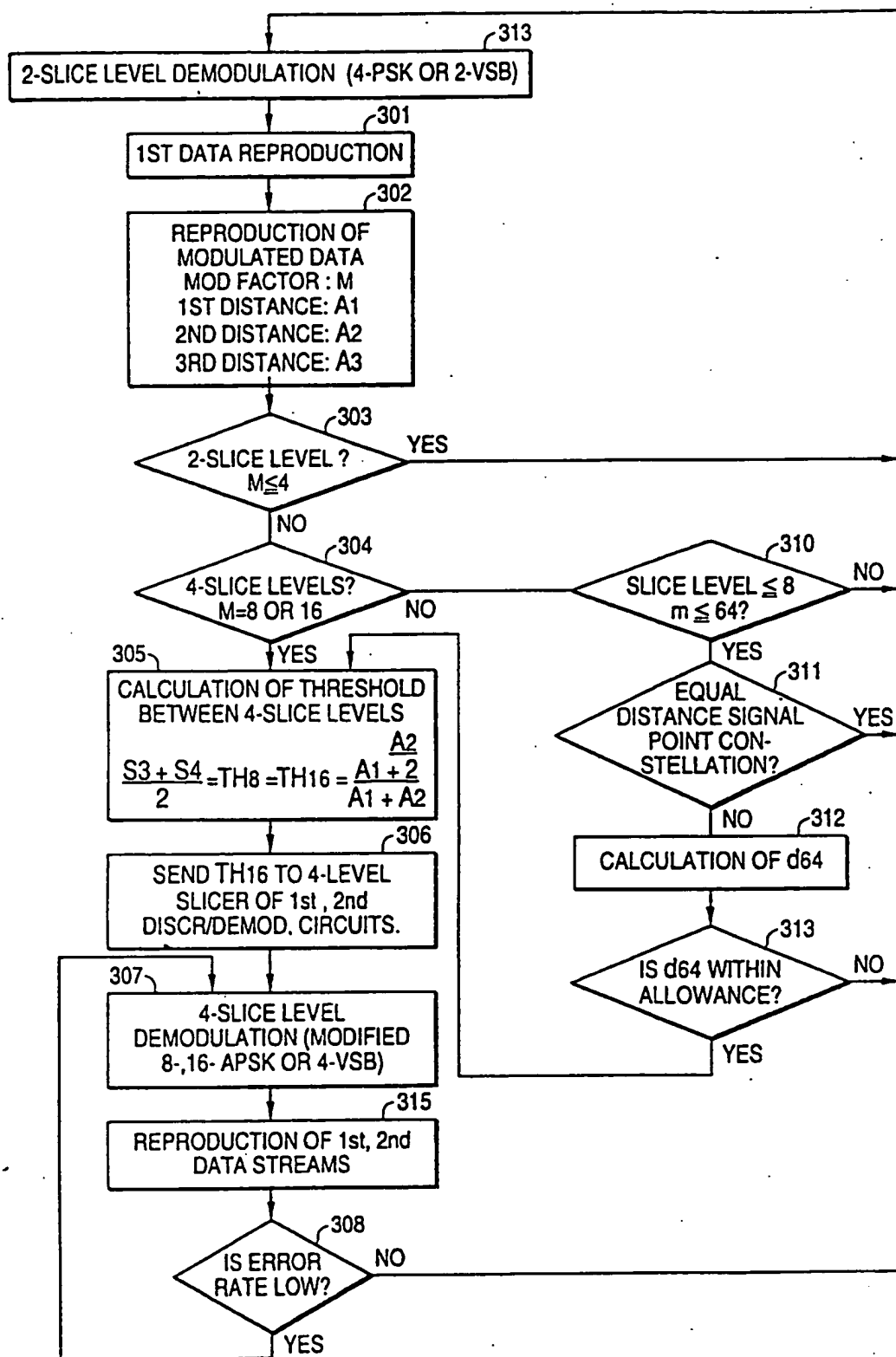


FIG. 25(a)

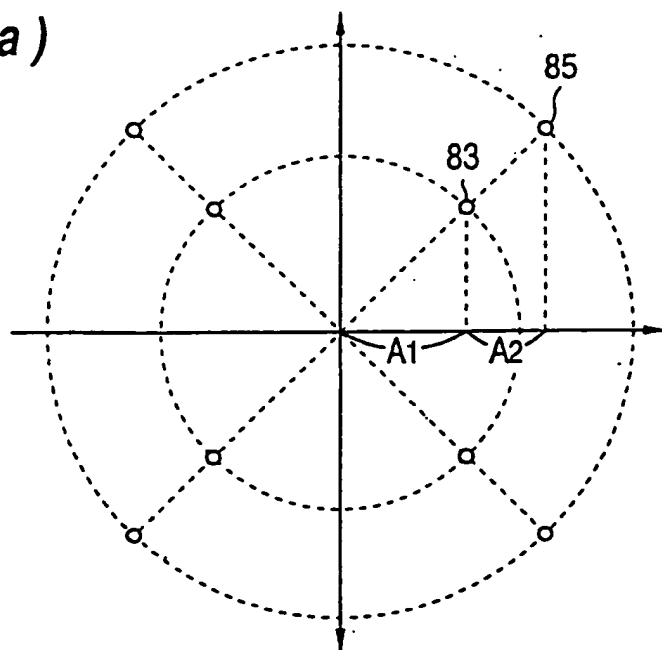


FIG. 25(b)

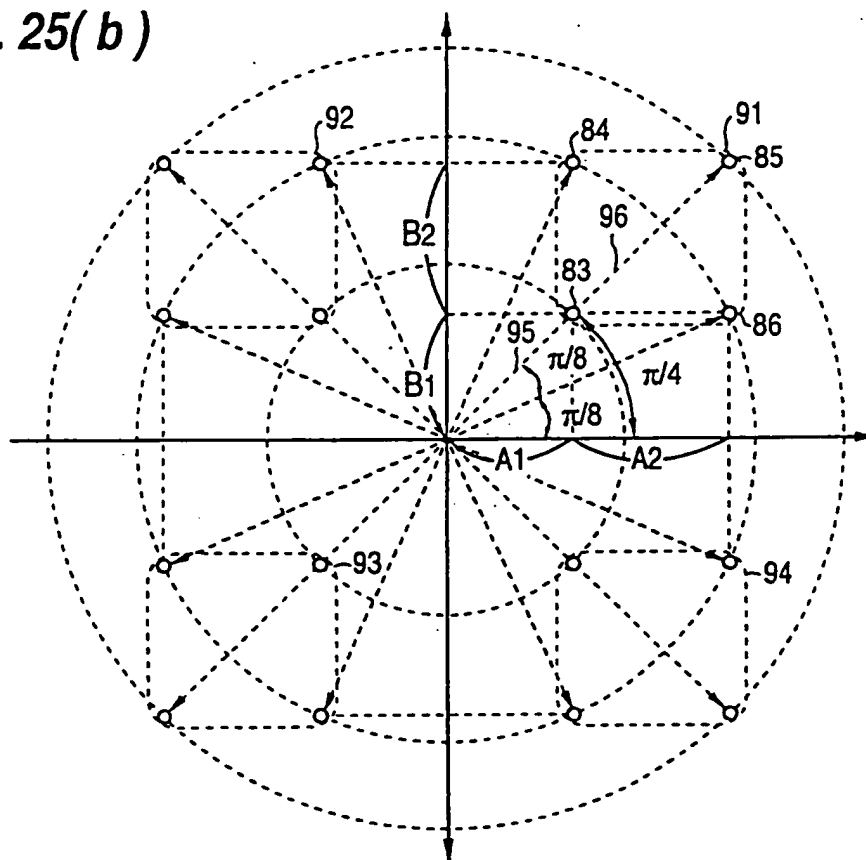


FIG. 26

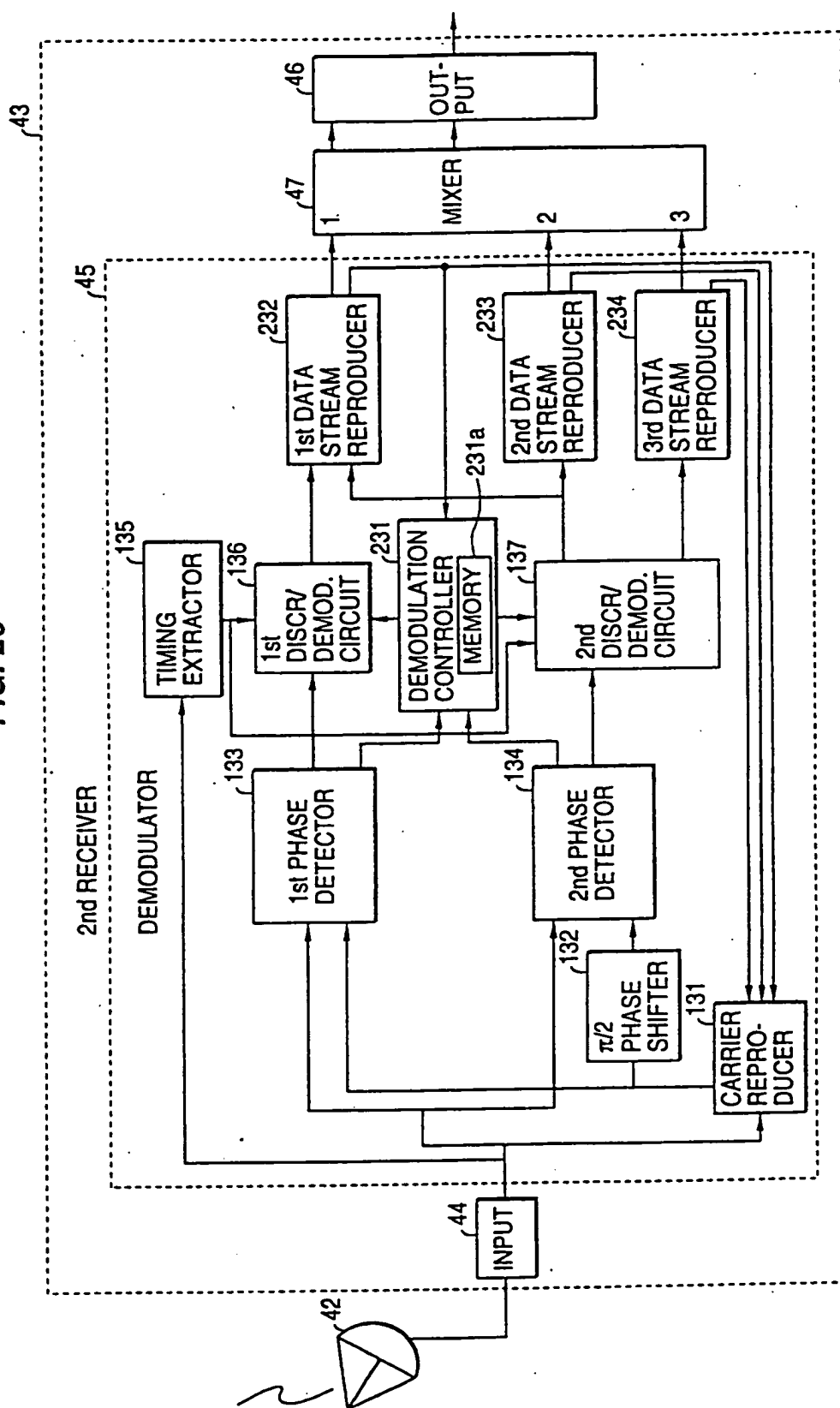


FIG. 27

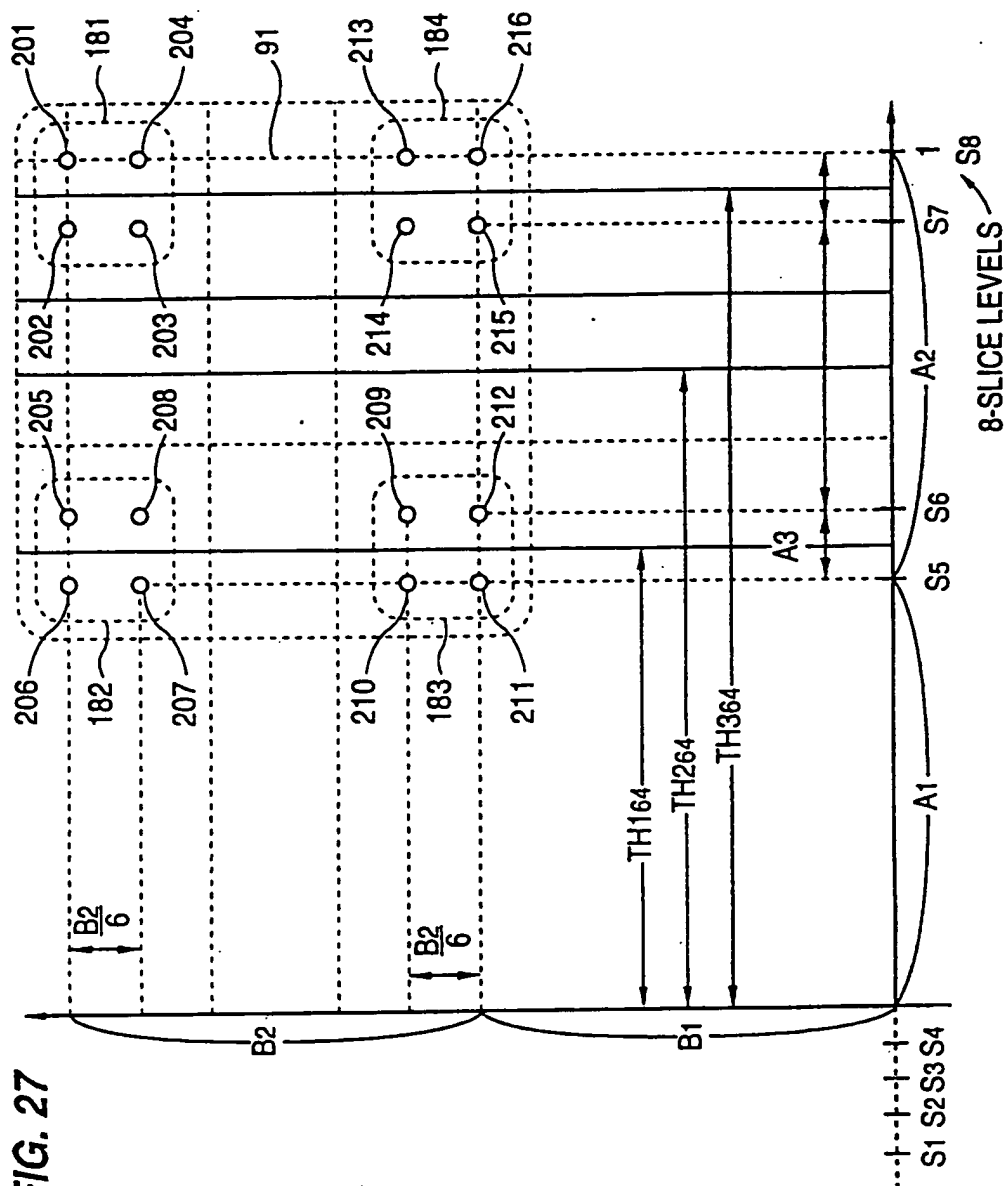


FIG. 28

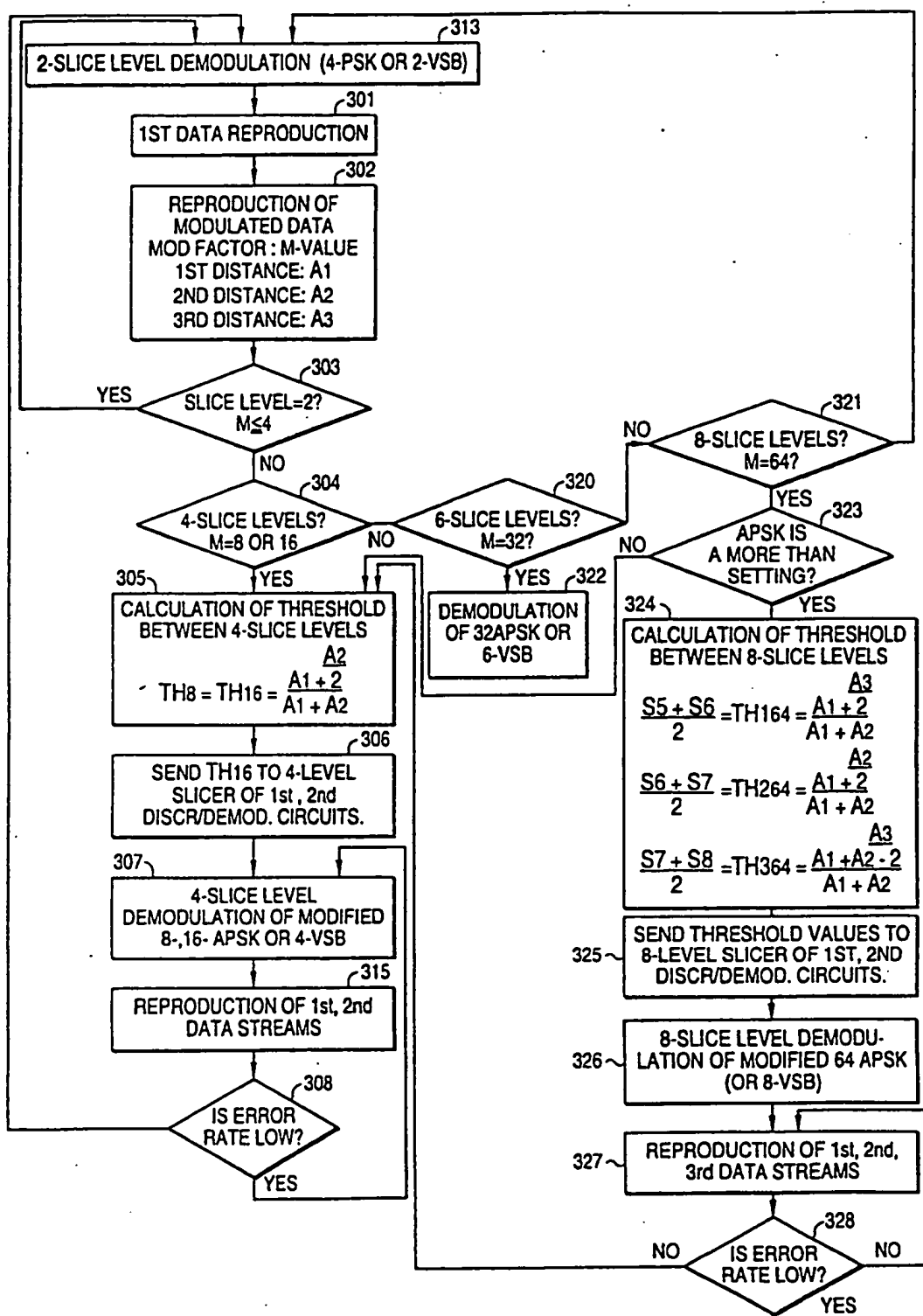


FIG. 29 (Amended)

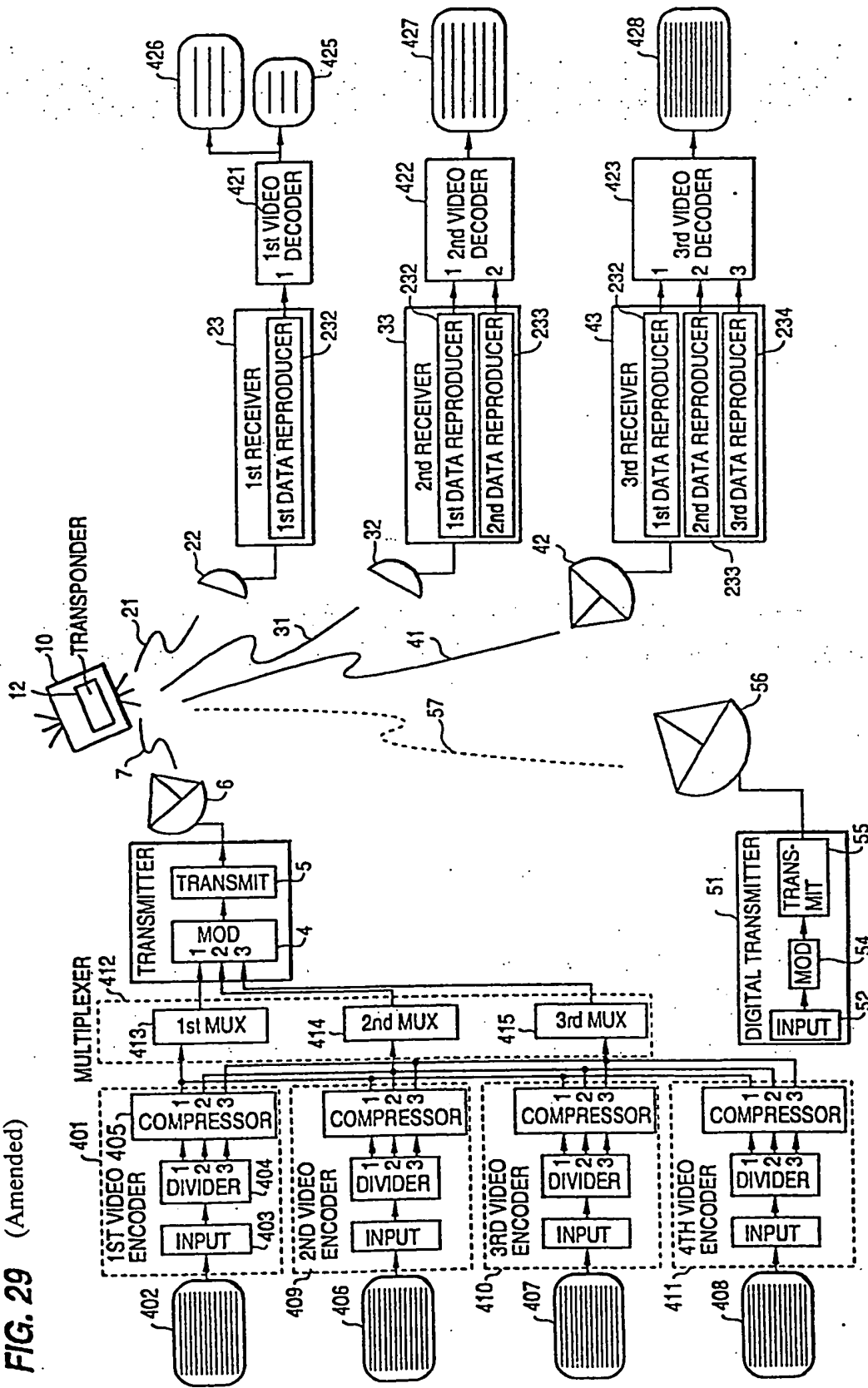


FIG. 30

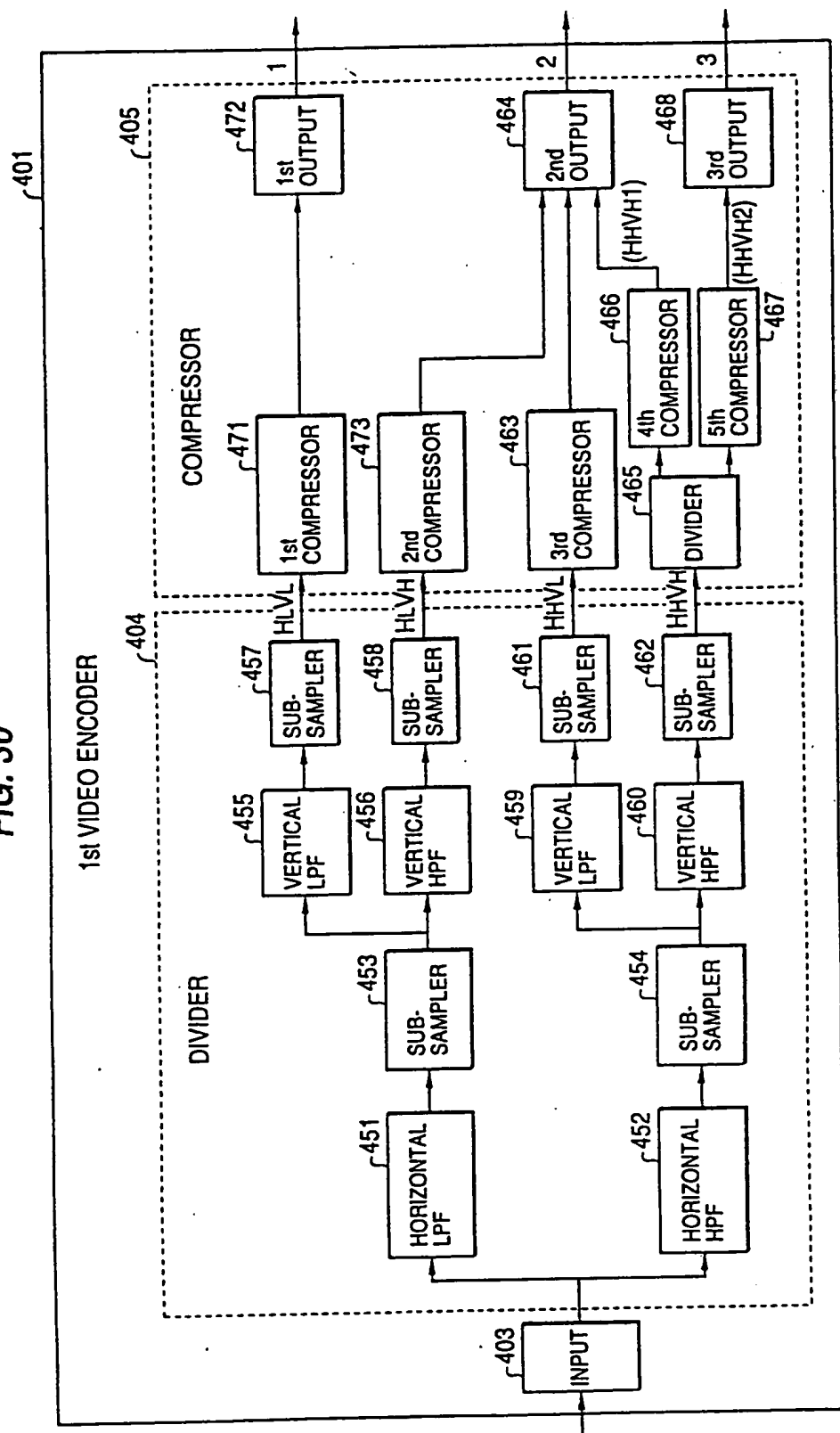


FIG. 31

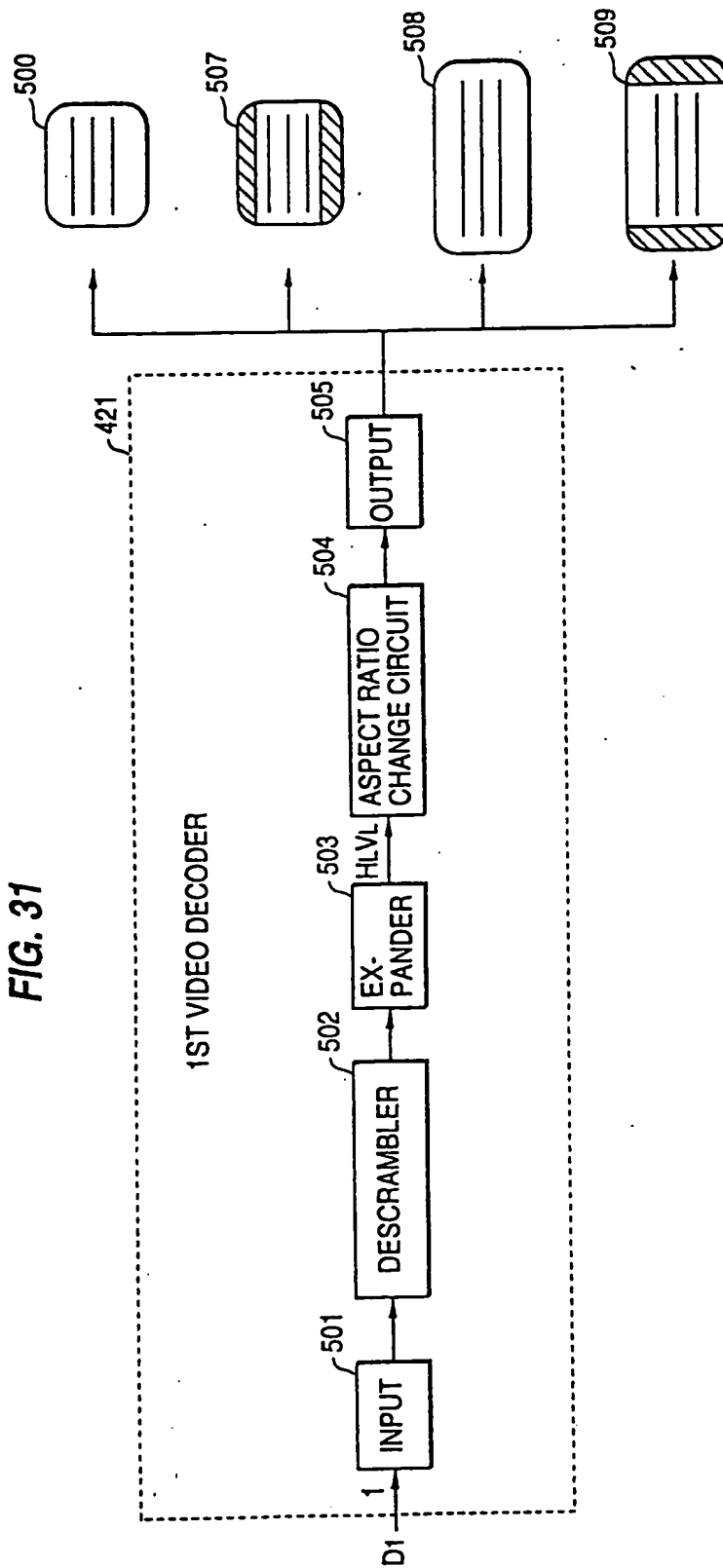


FIG. 32

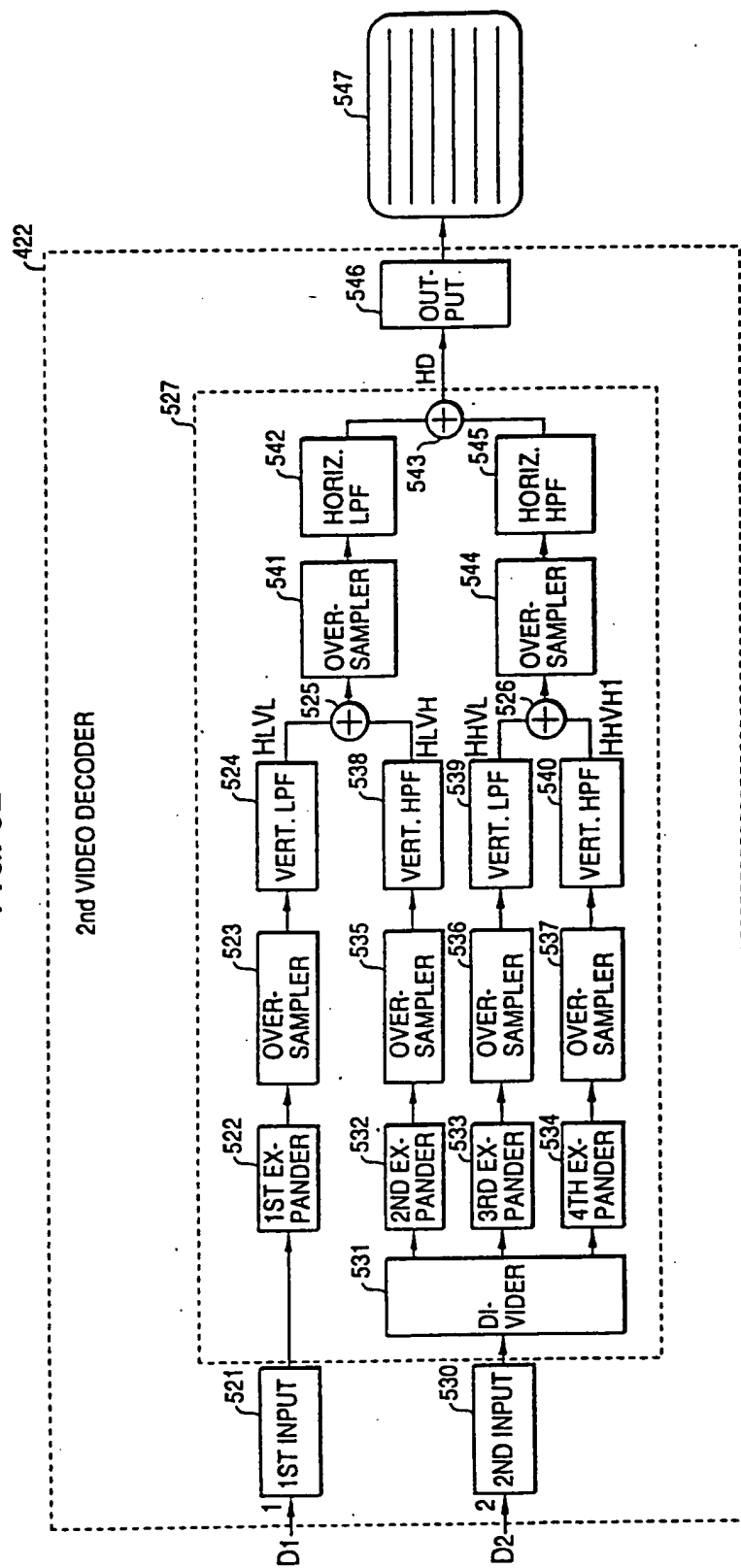


FIG. 33

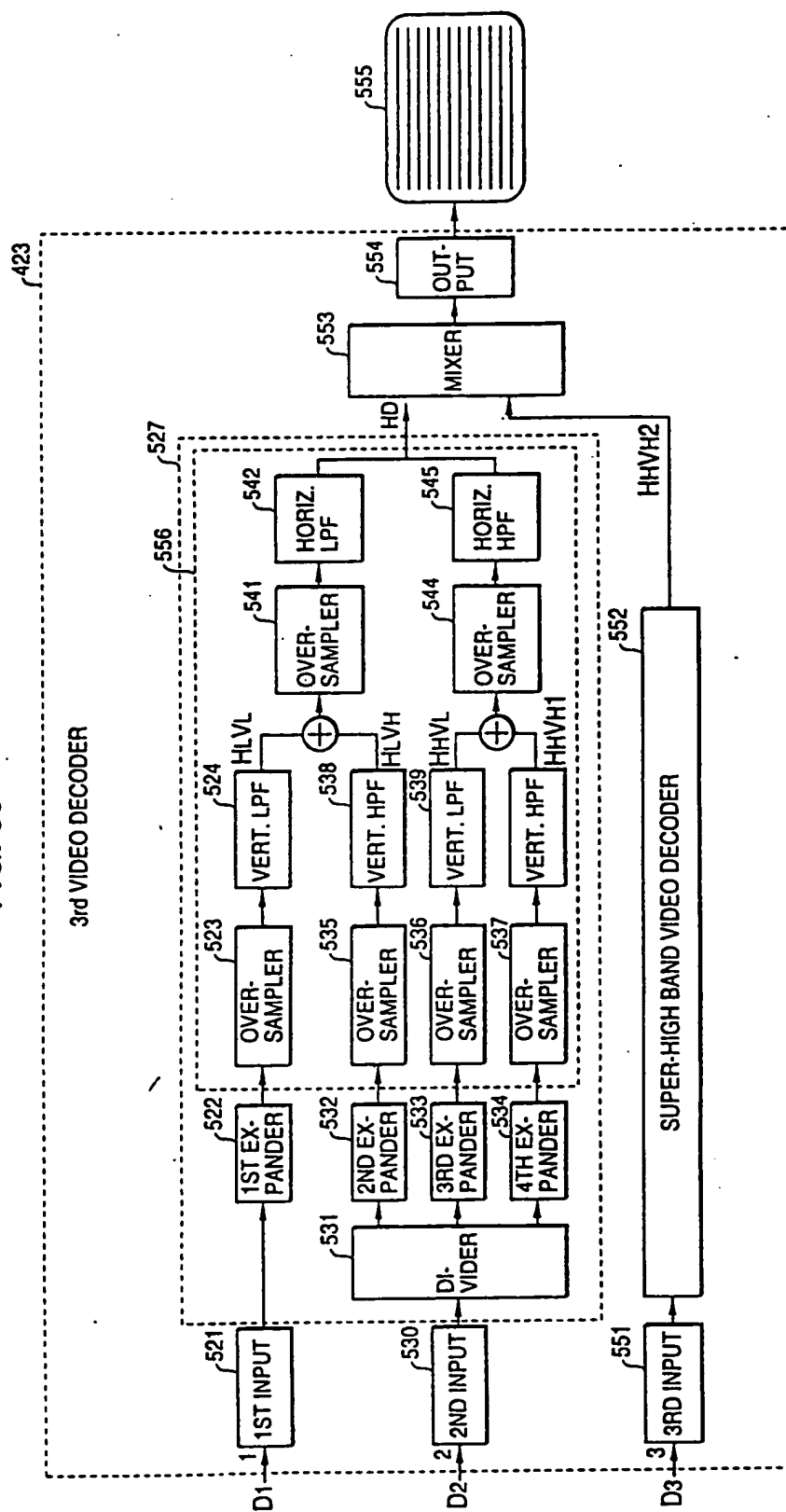


FIG. 34

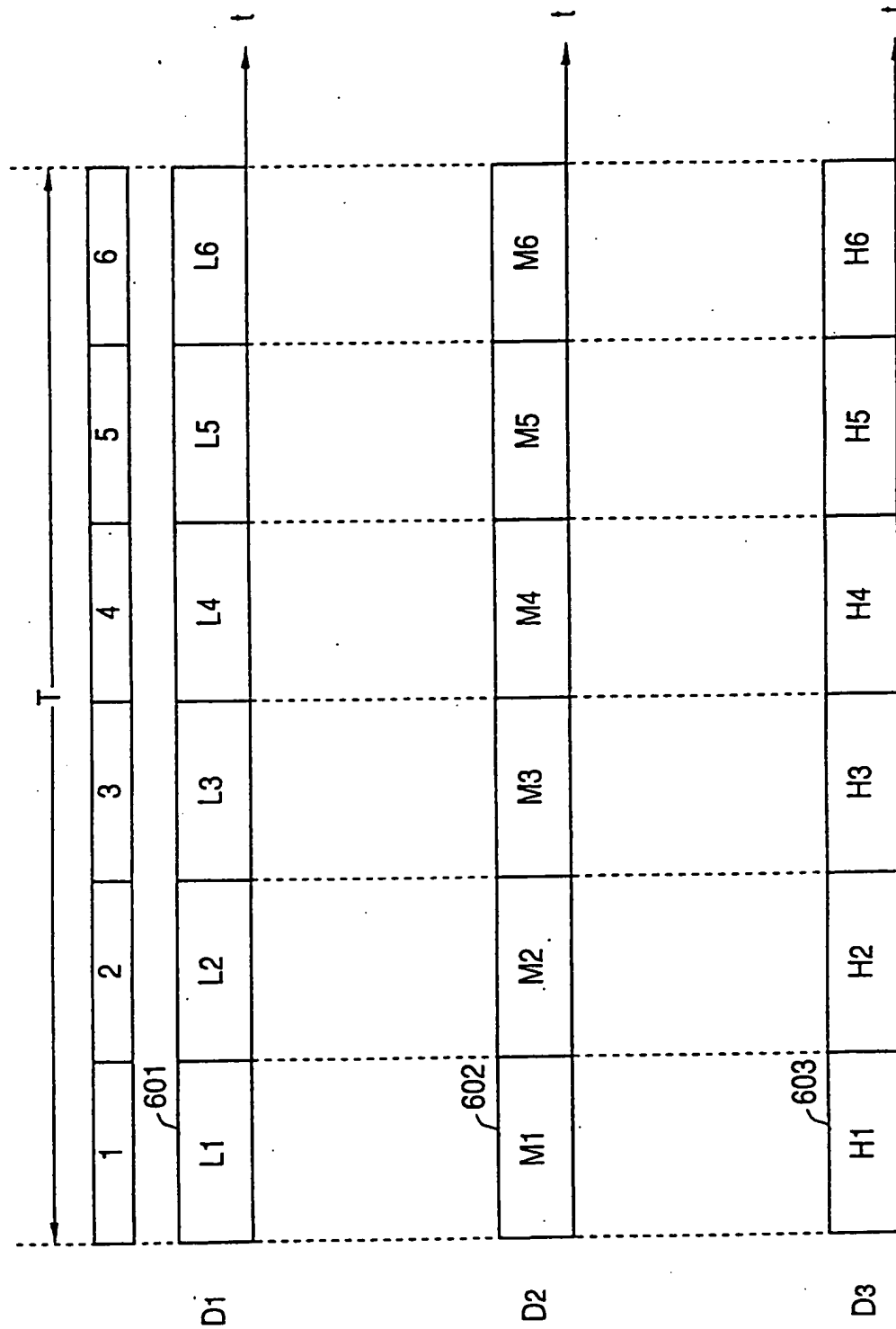


FIG. 35

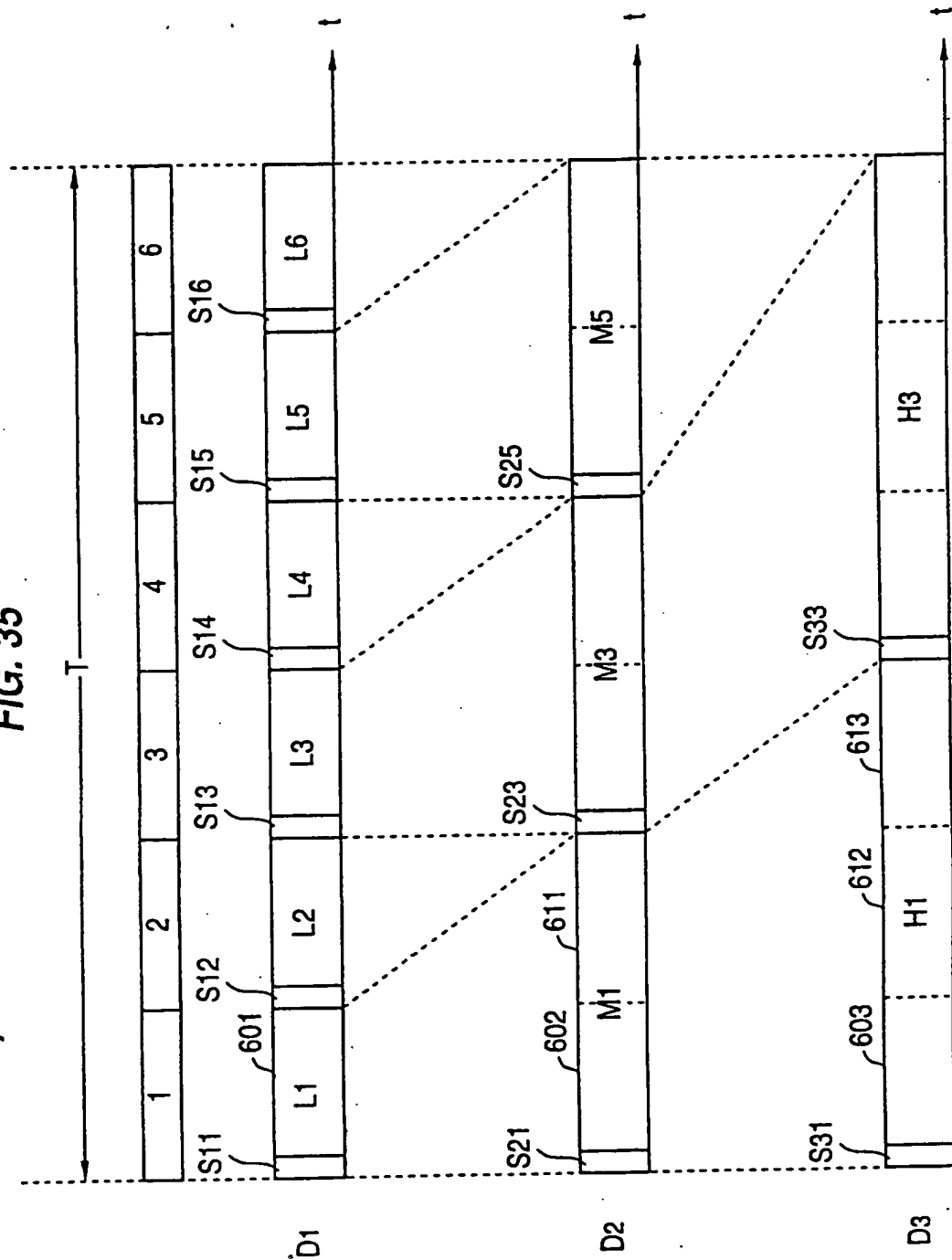


FIG. 36

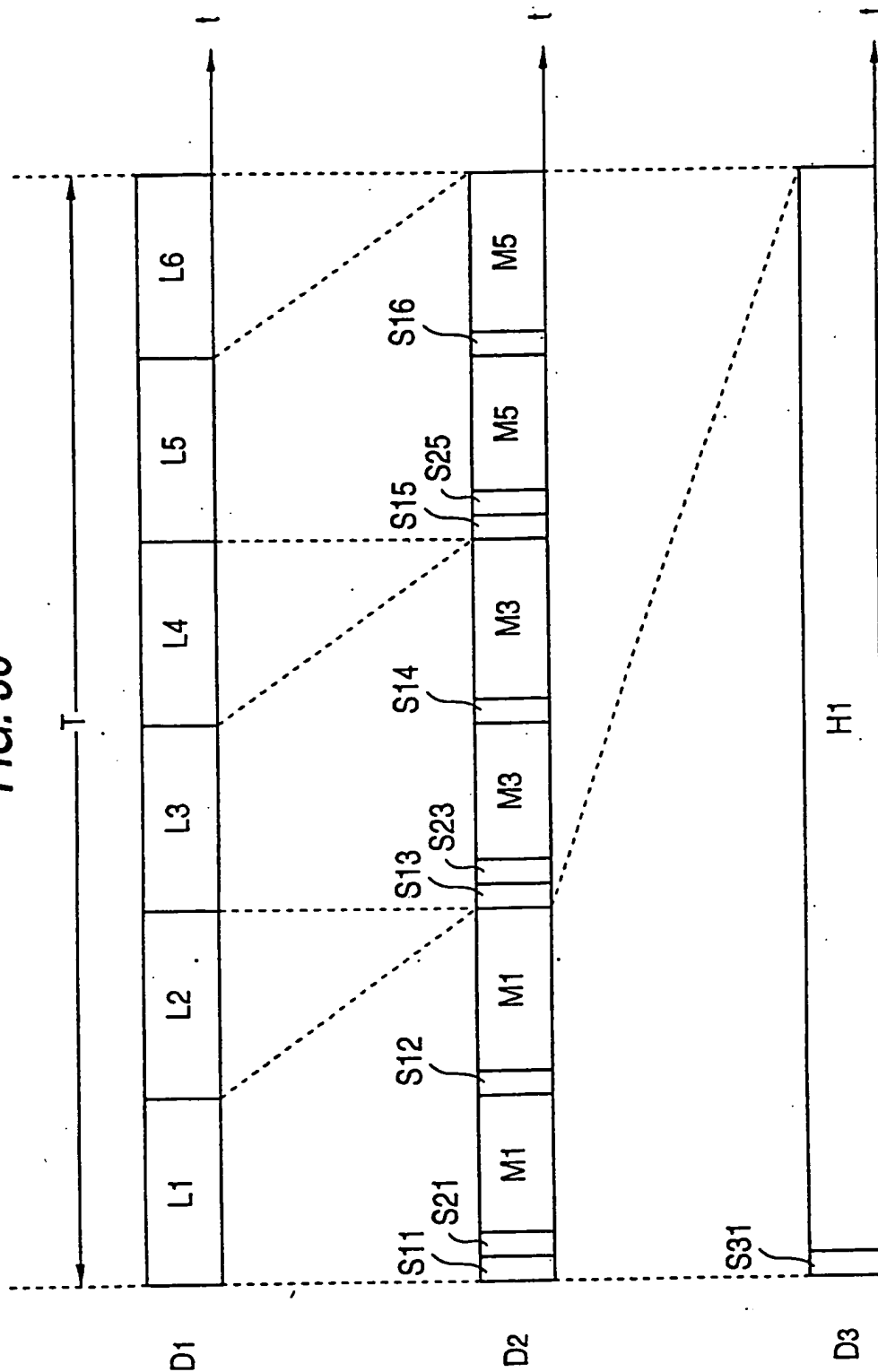


FIG. 37

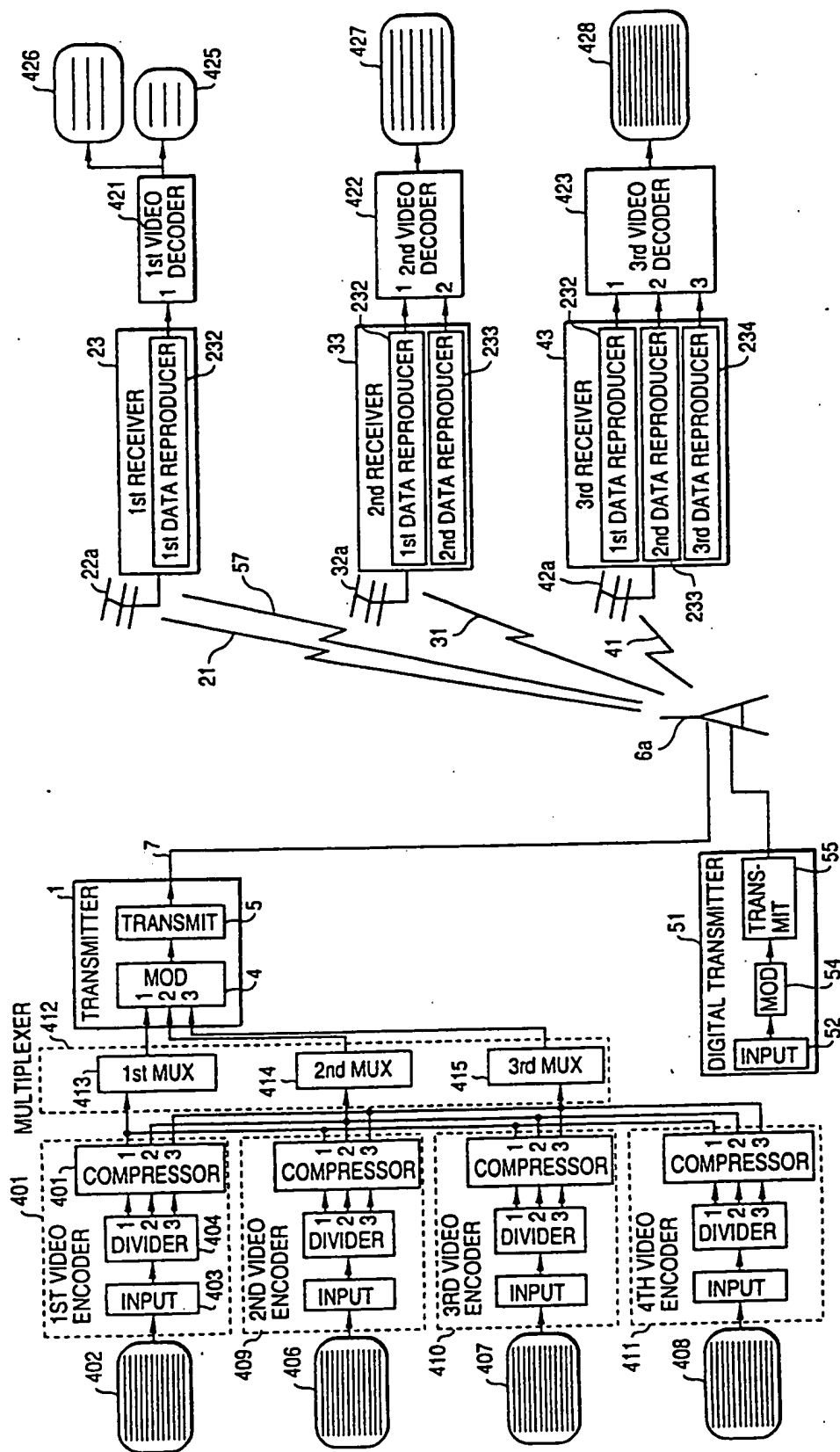


FIG. 38

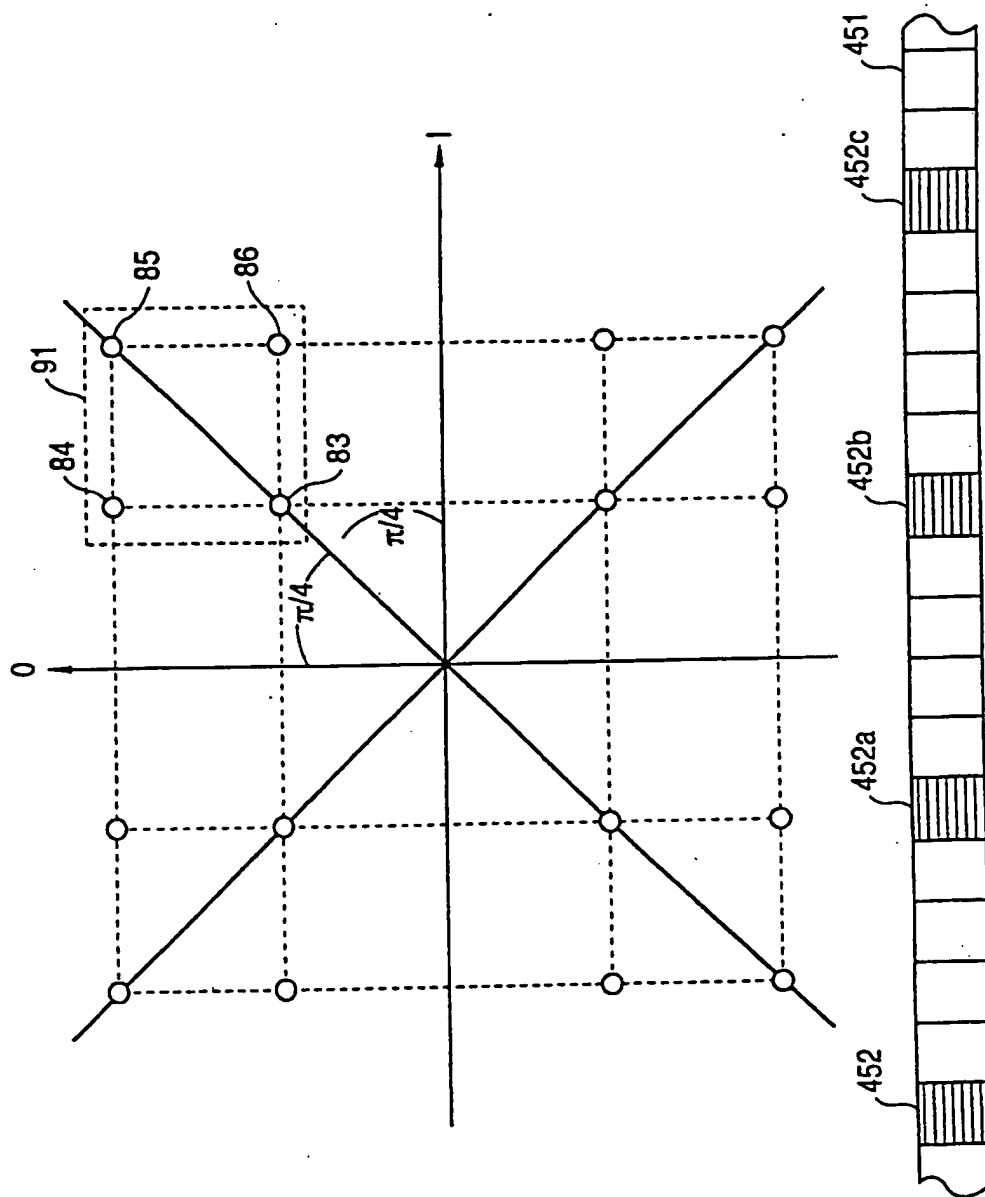


FIG. 39

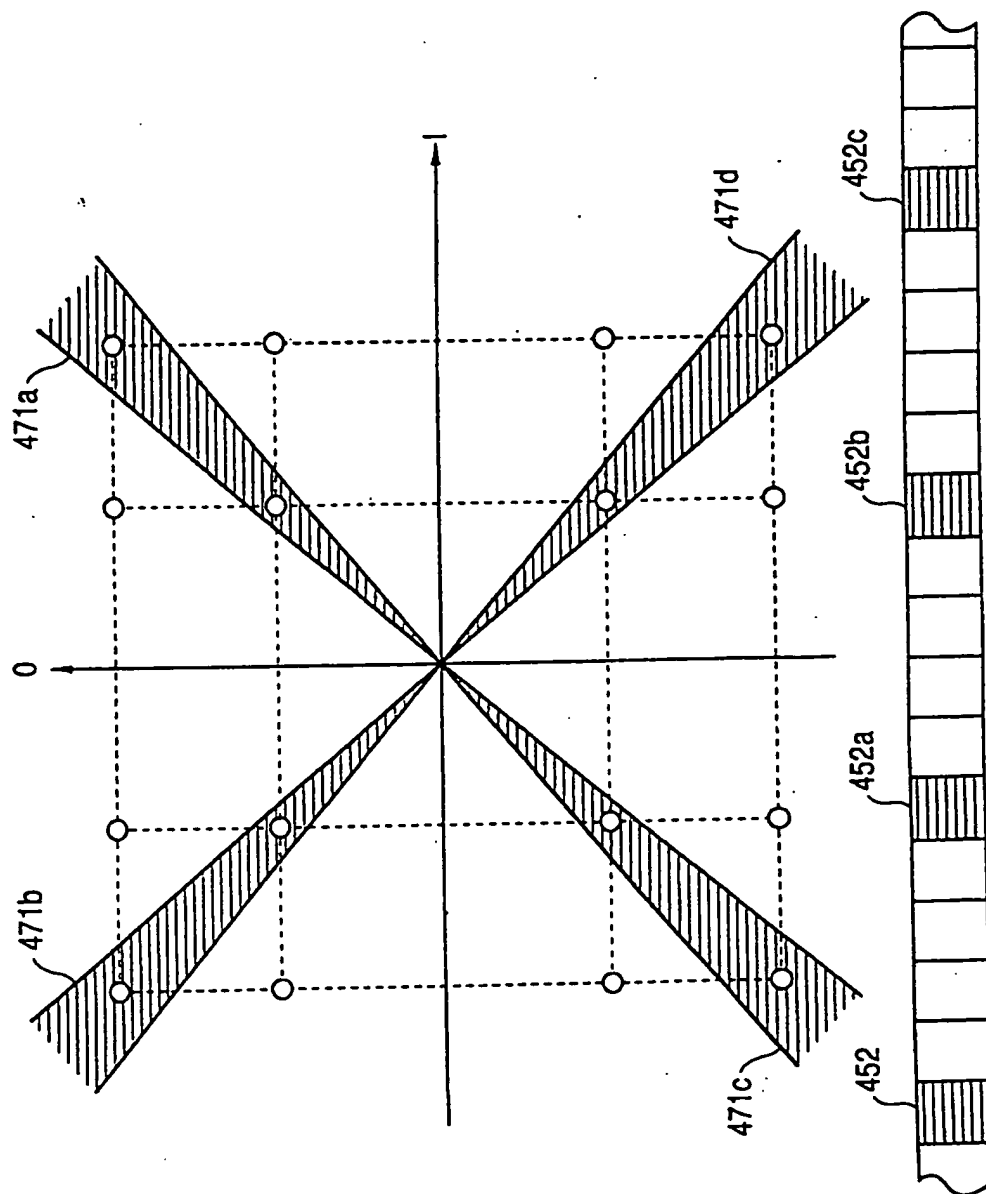


FIG. 40

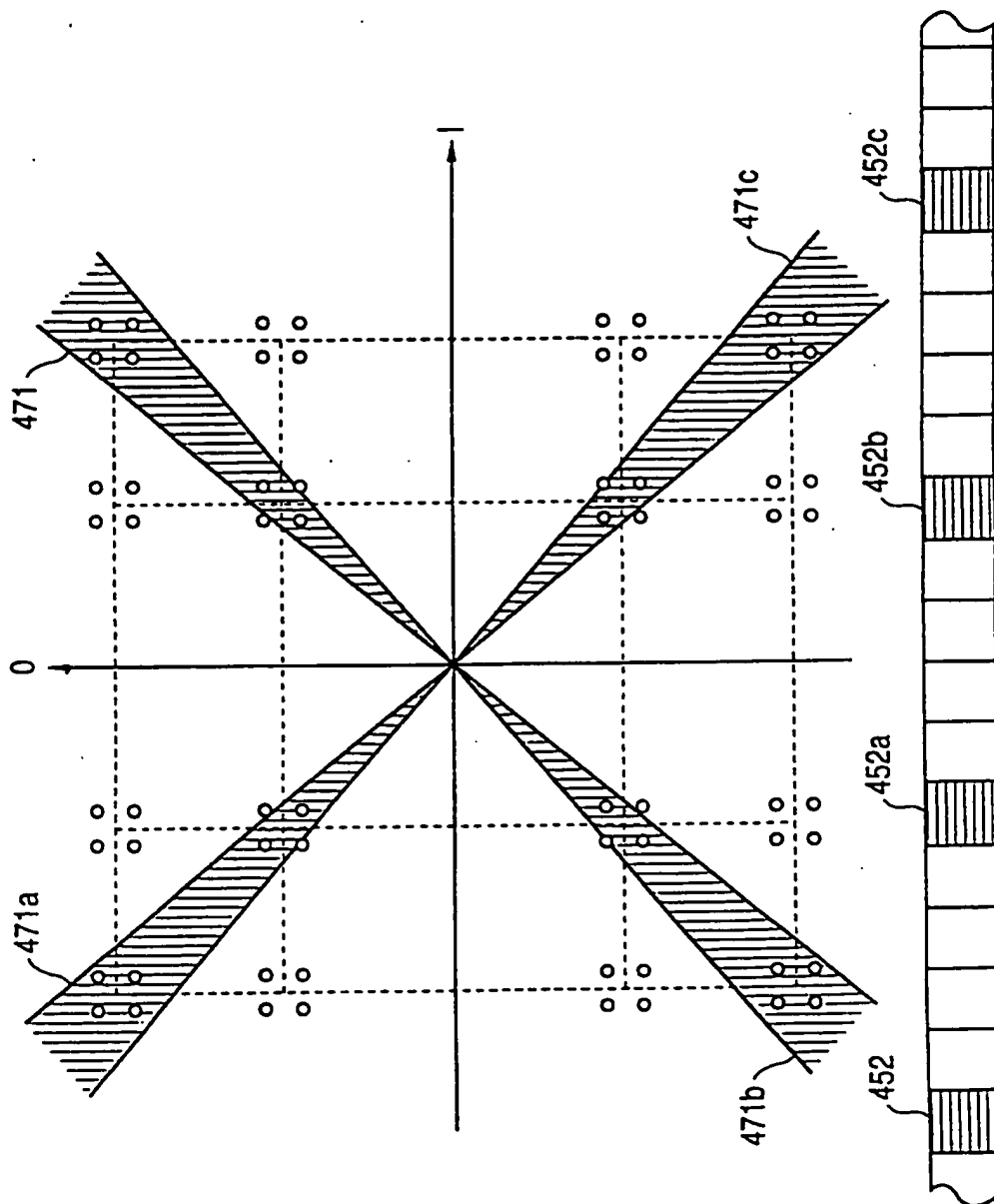


FIG. 41

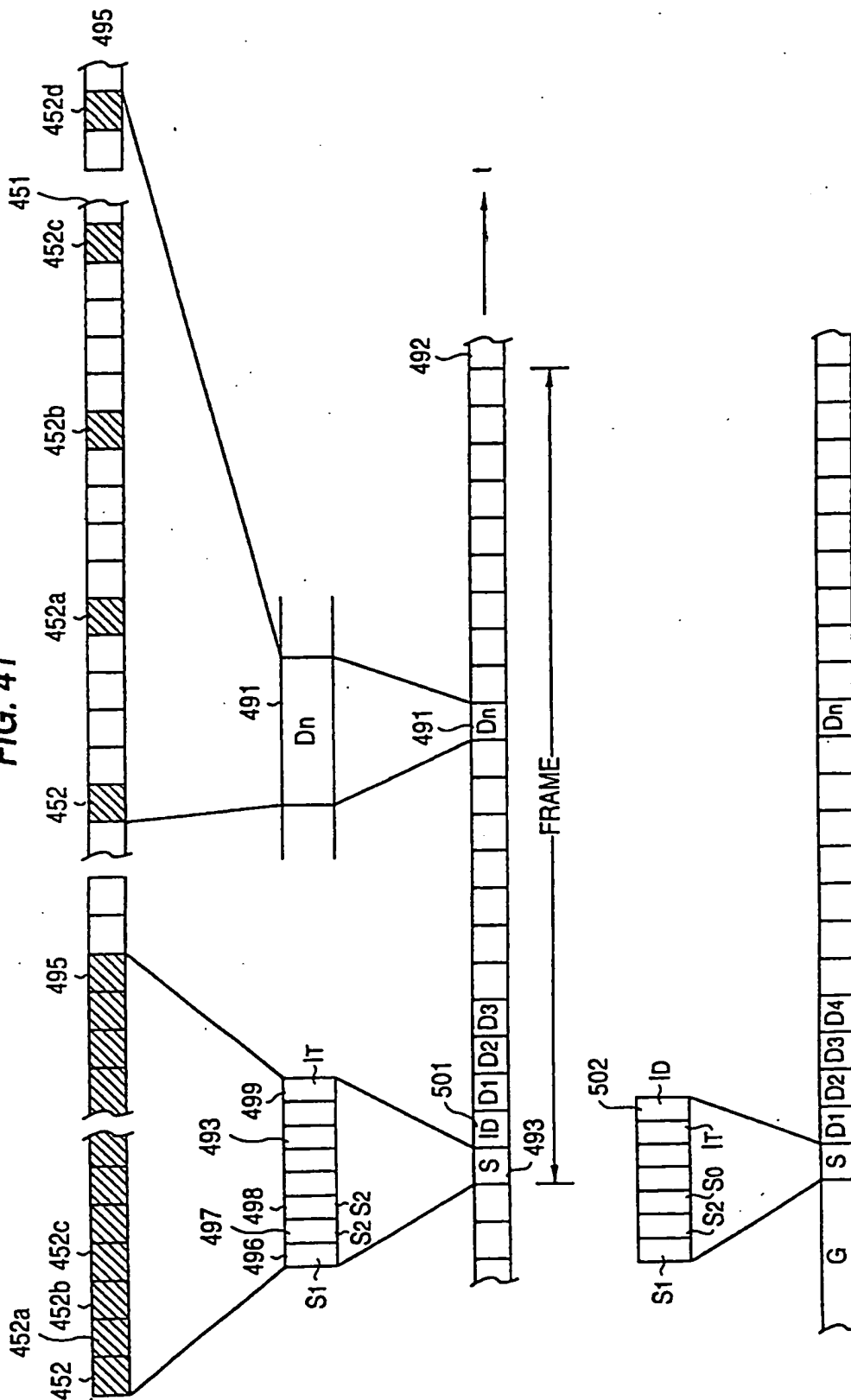


FIG. 42

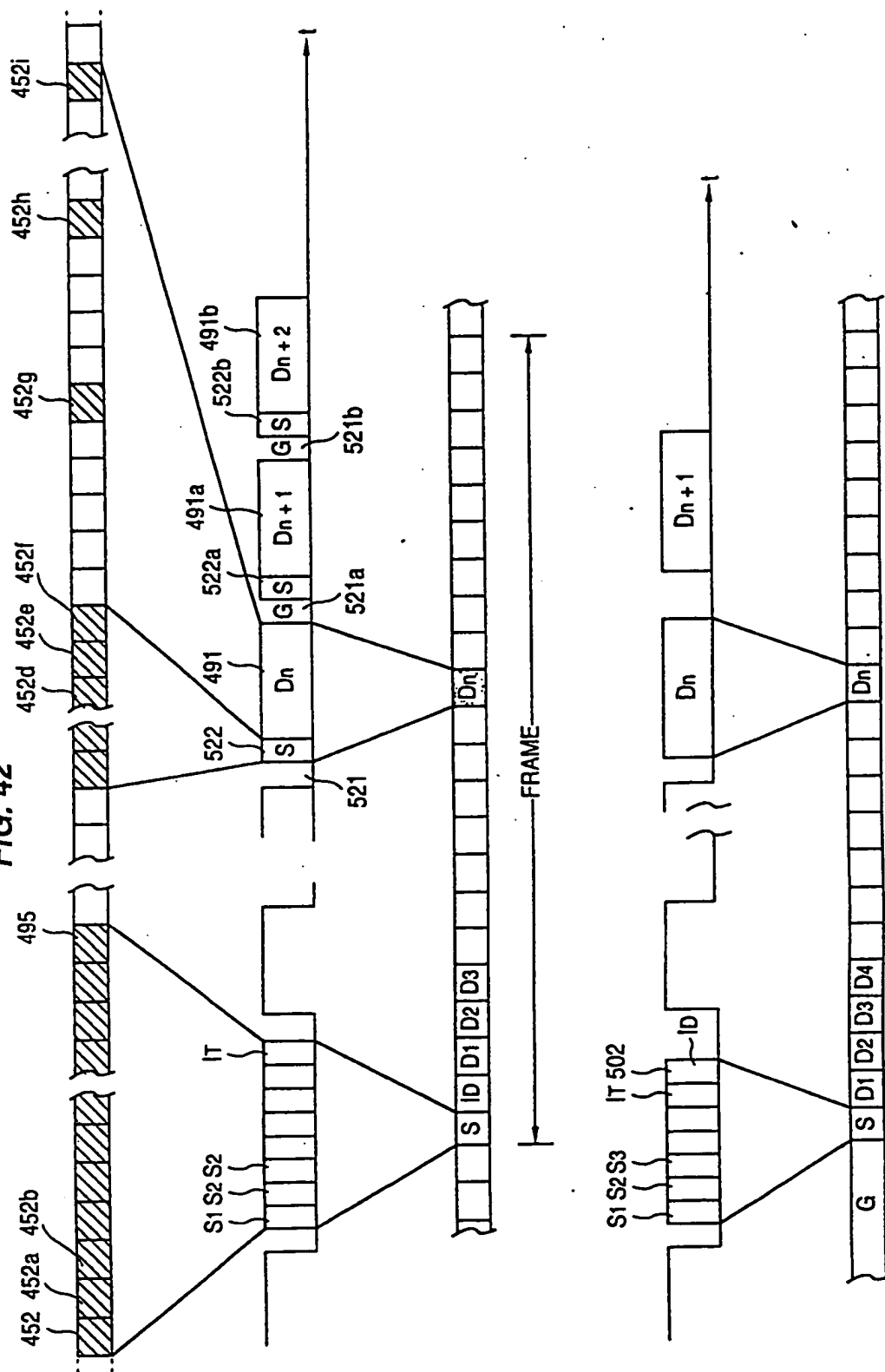


FIG. 43

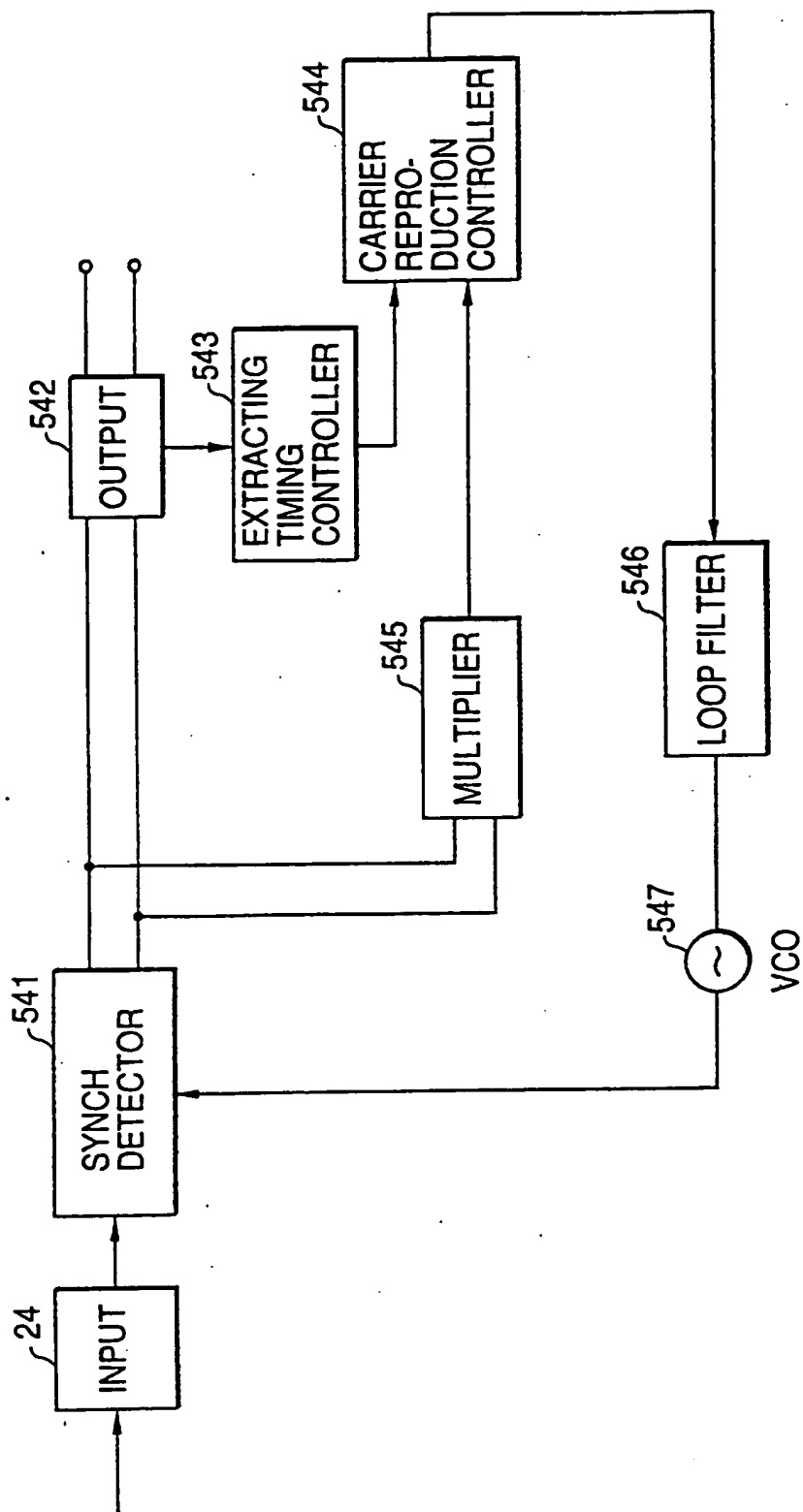


FIG. 44

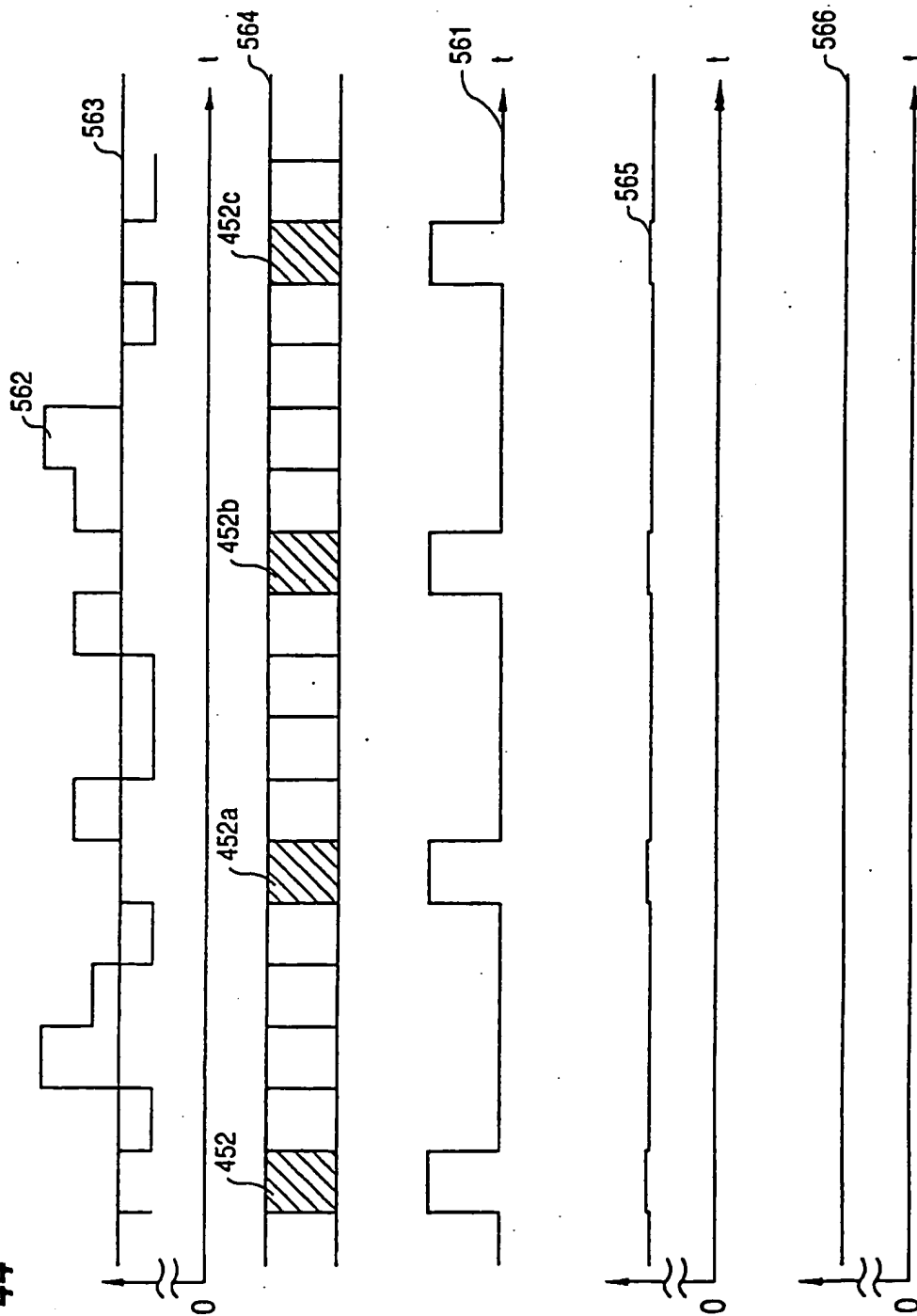


FIG. 45

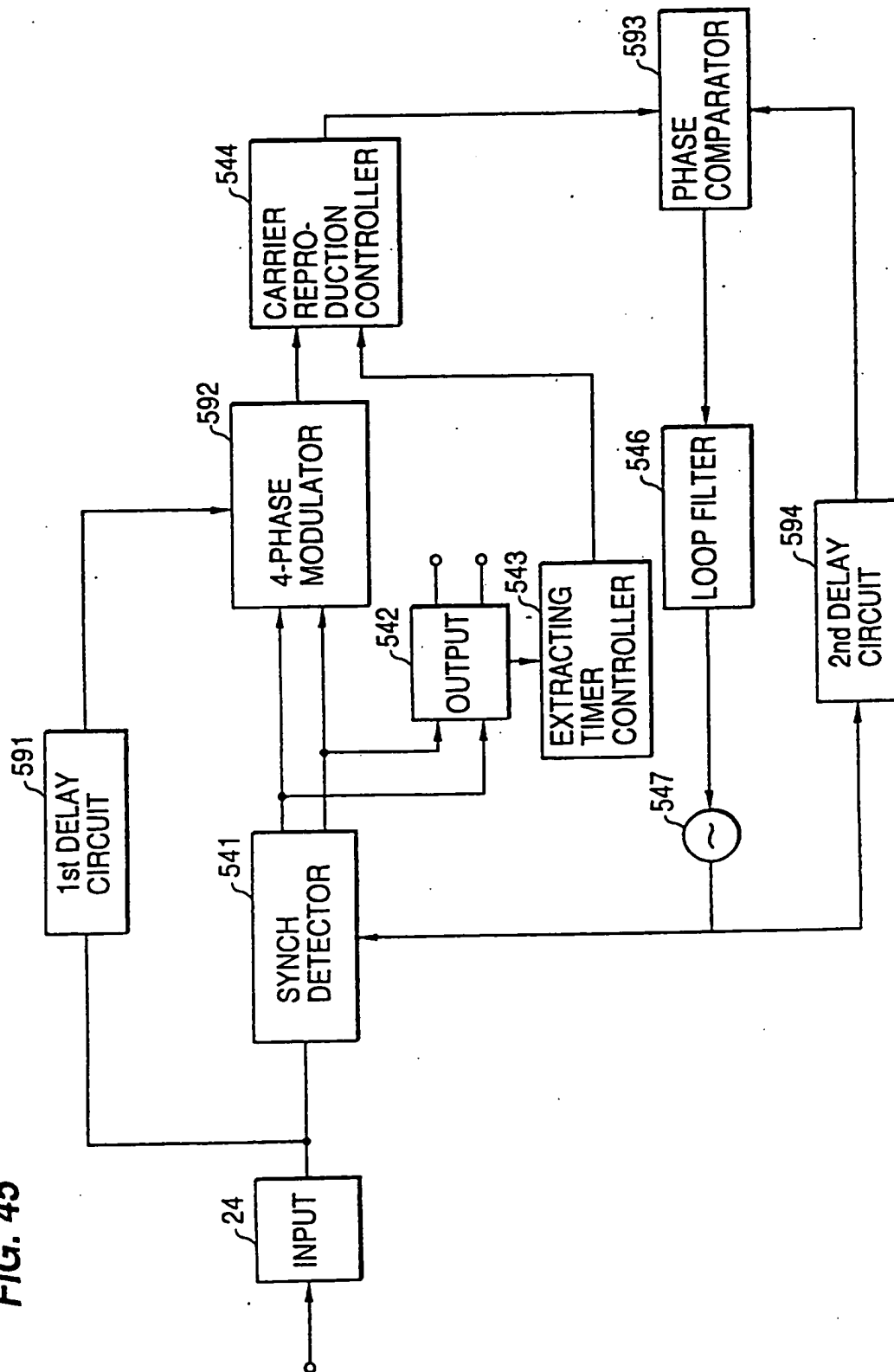


FIG. 47

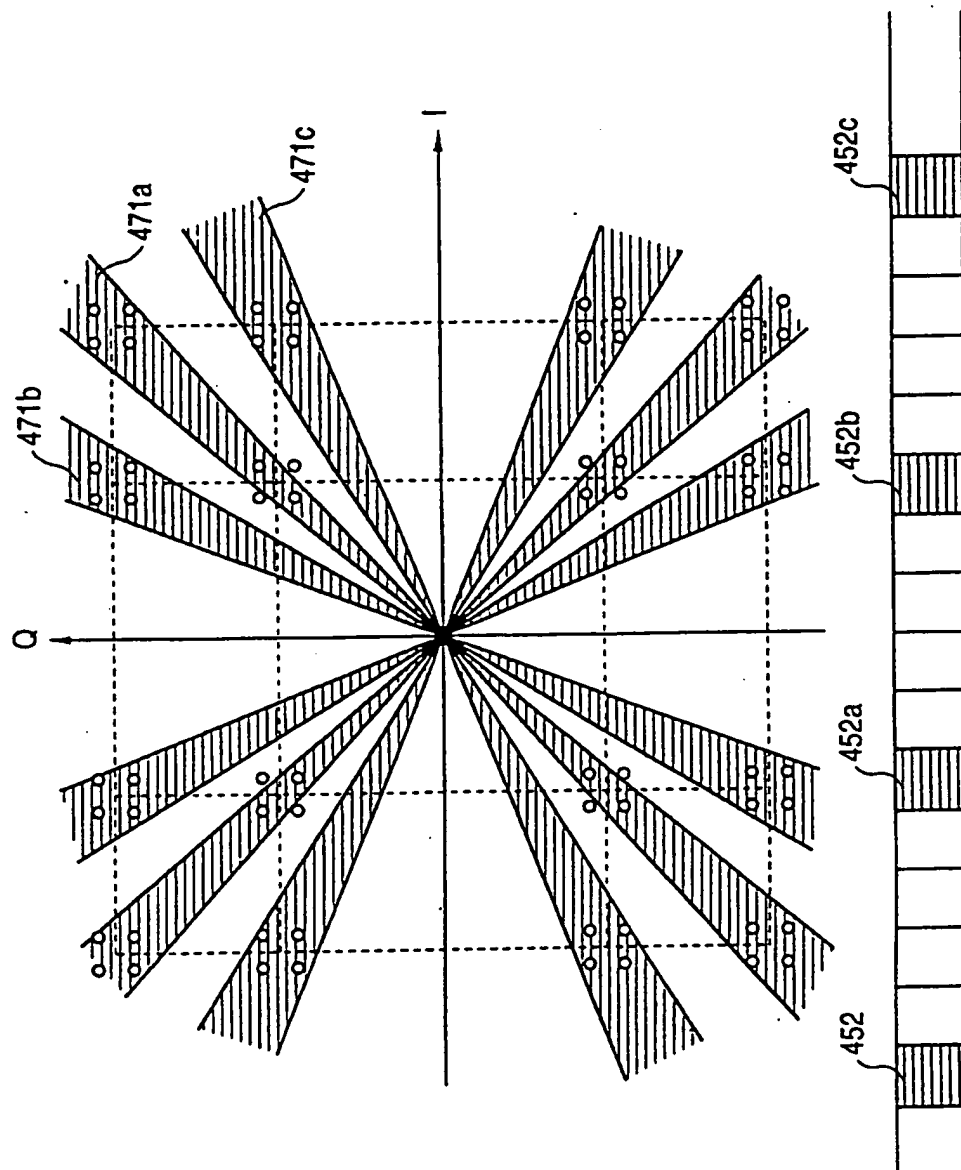


FIG. 48 (Amended)

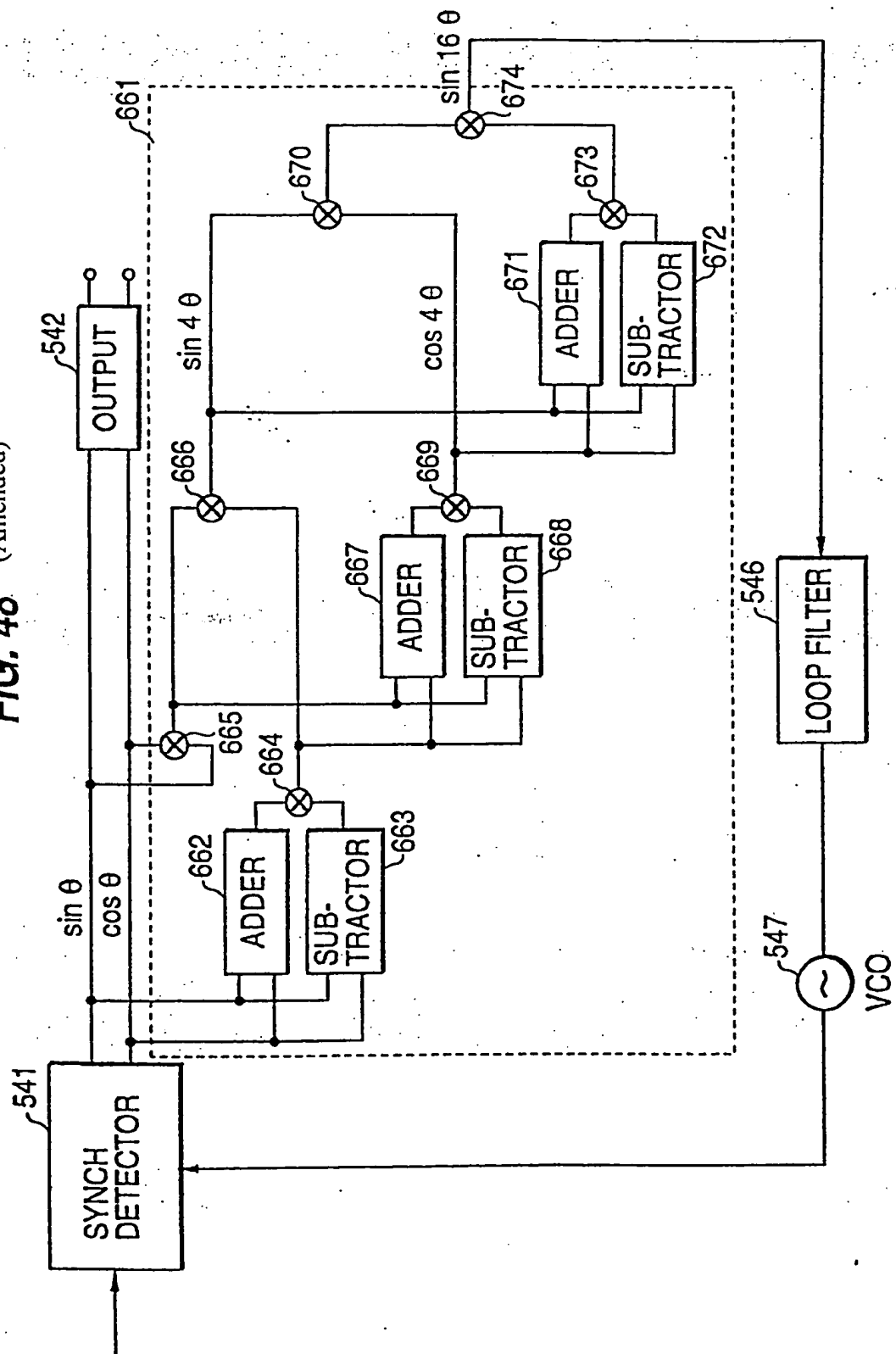


FIG. 49

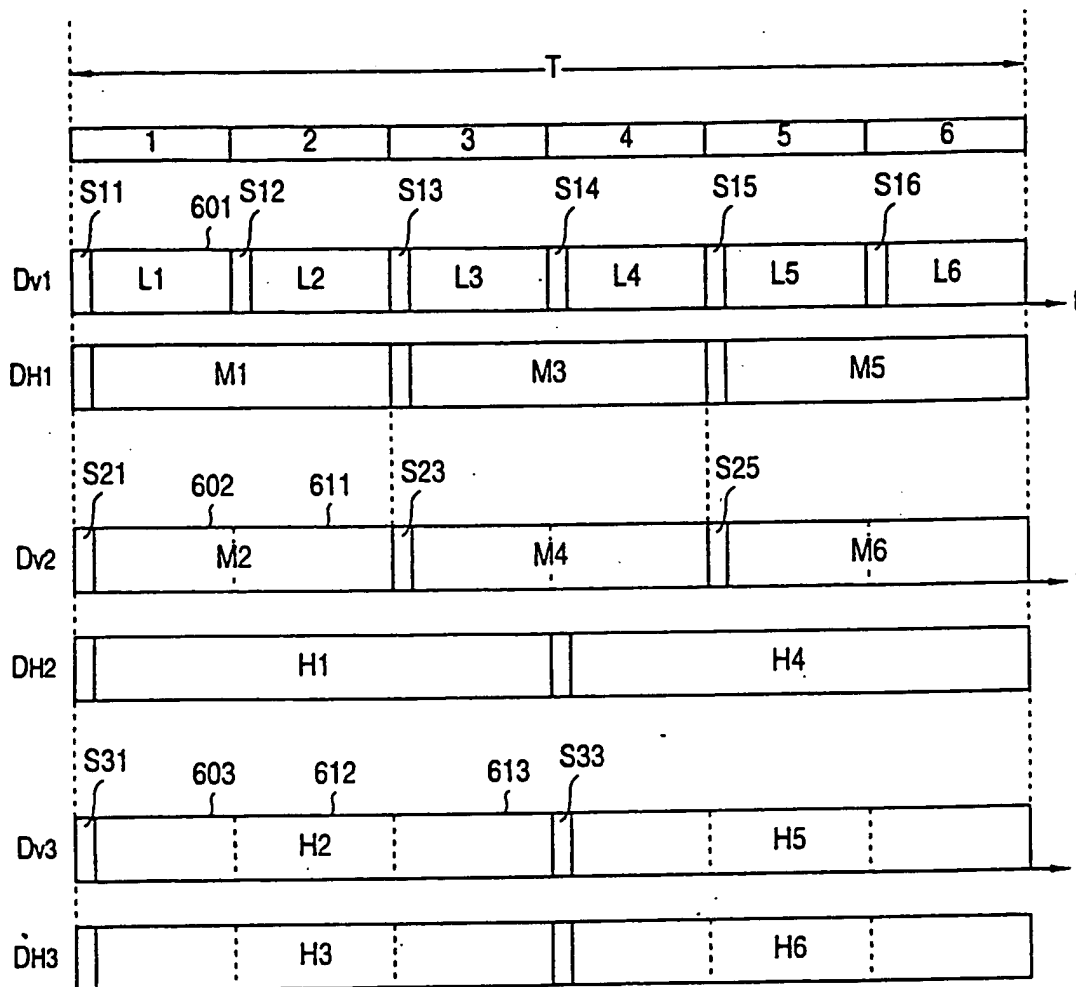


FIG. 50

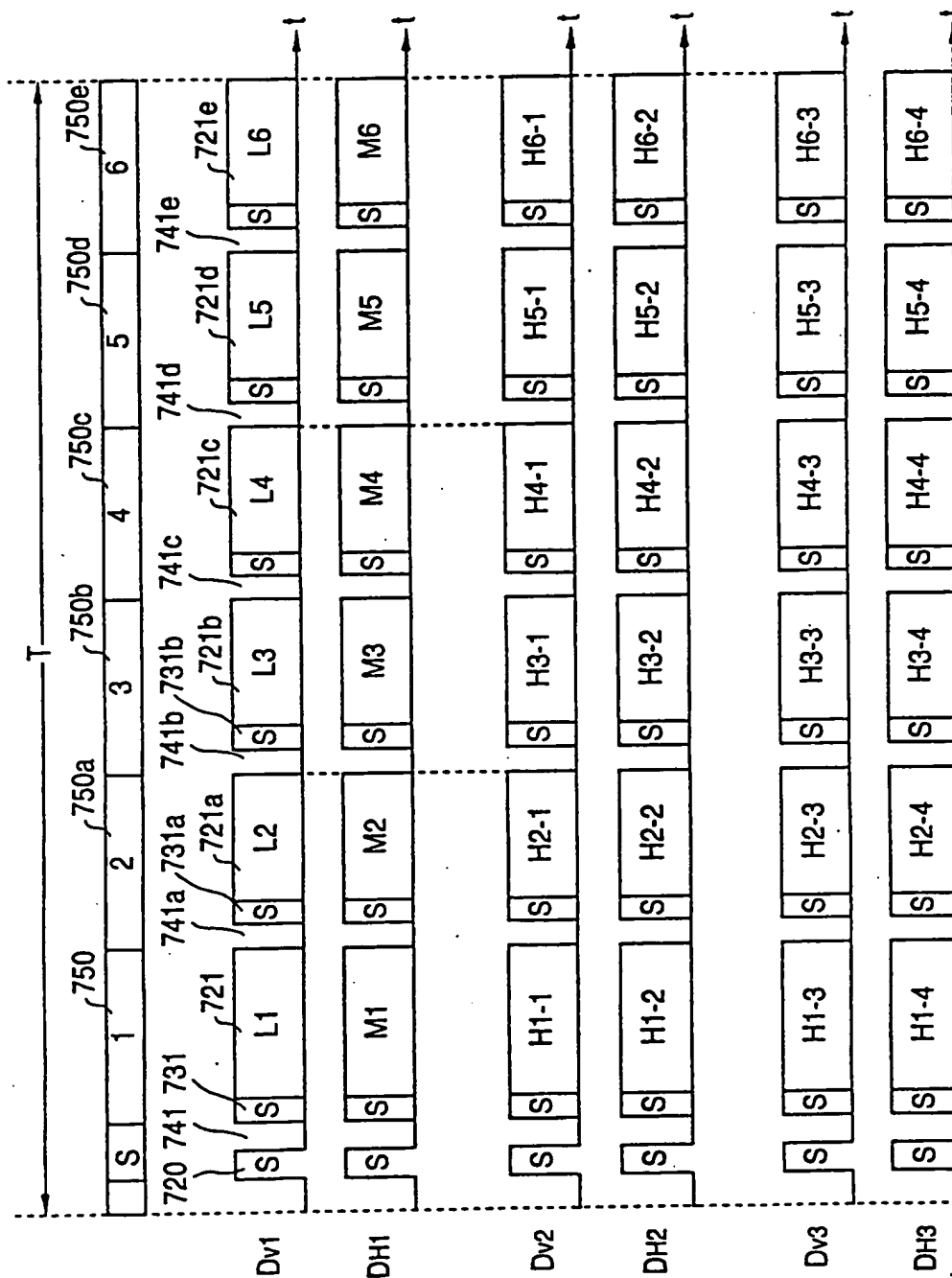


FIG. 51

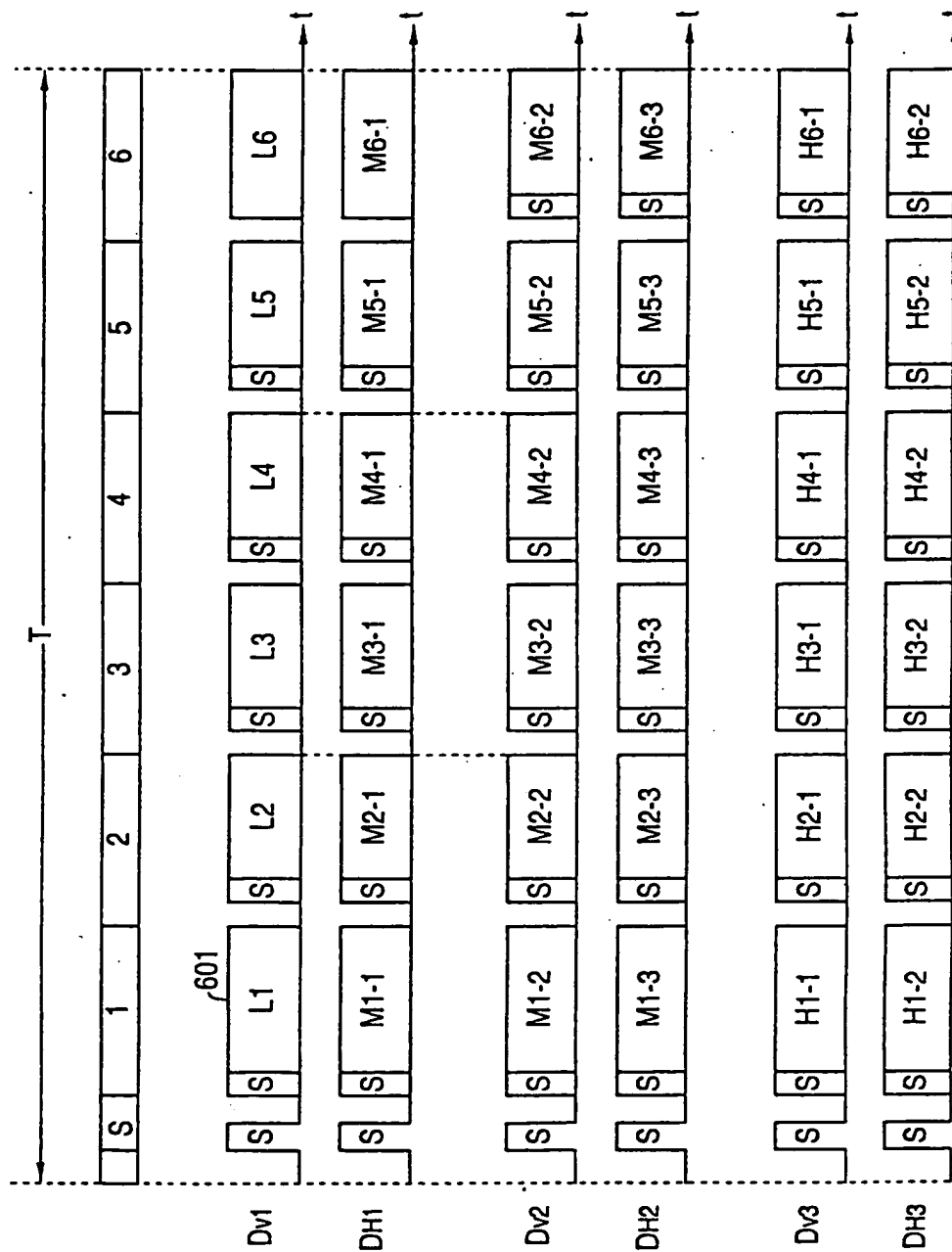


FIG. 52

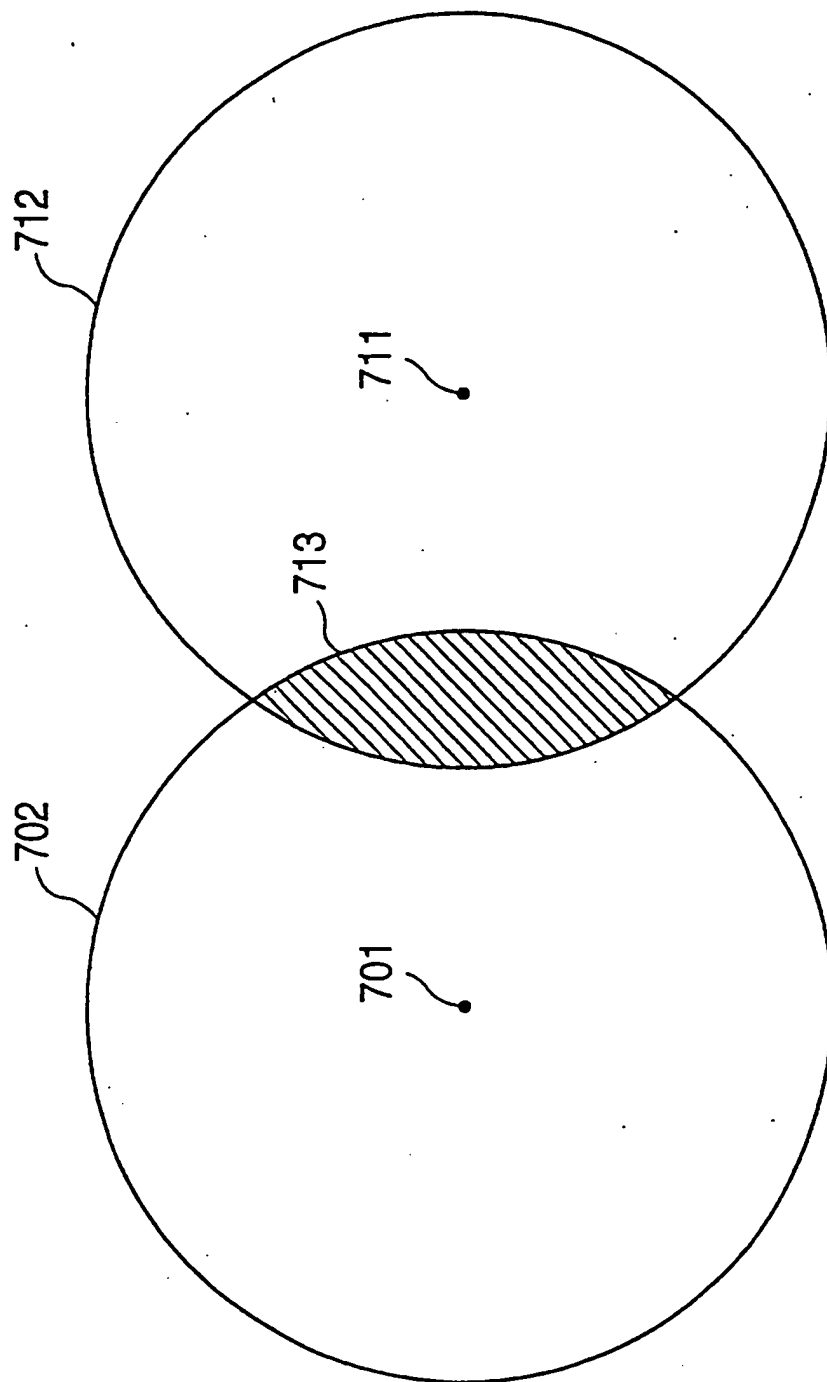


FIG. 53

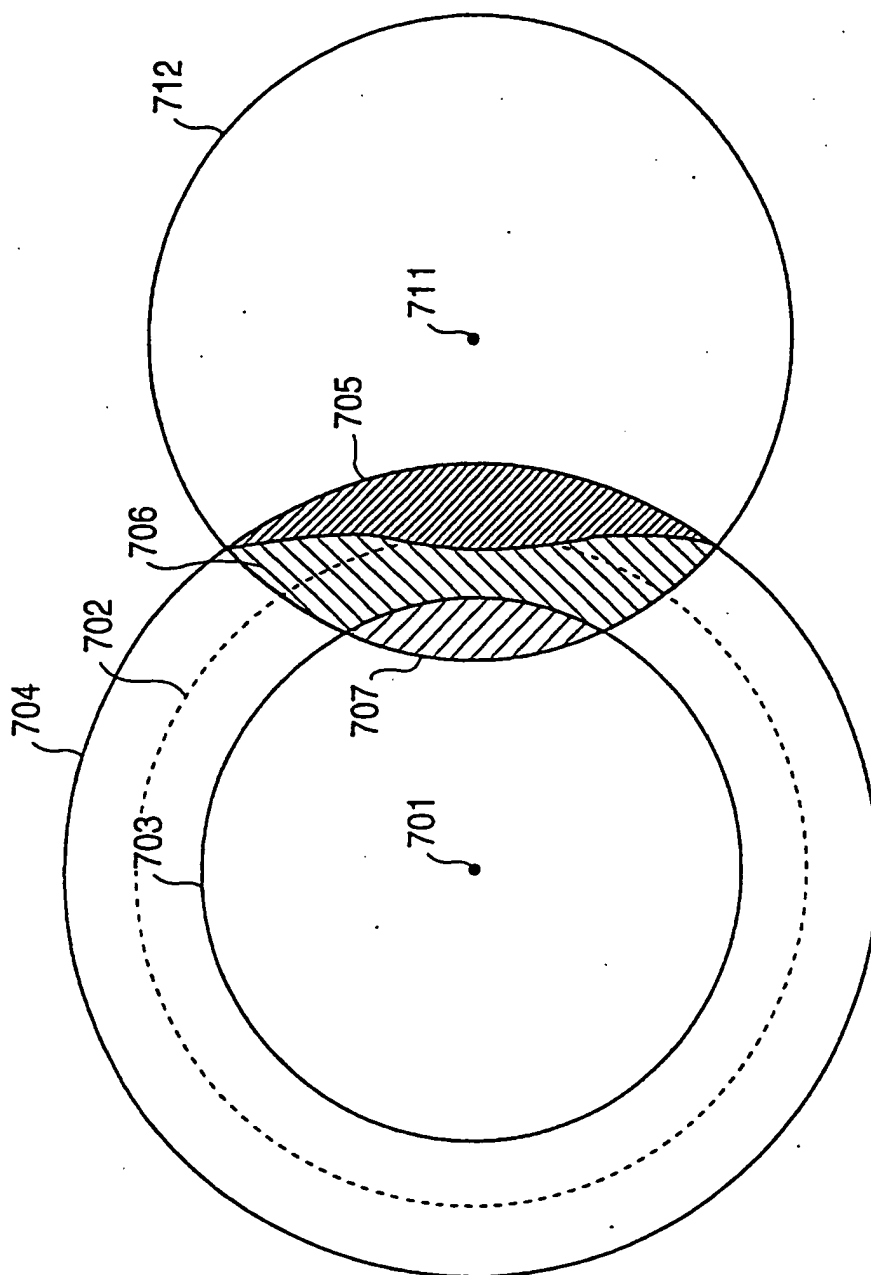


FIG. 54

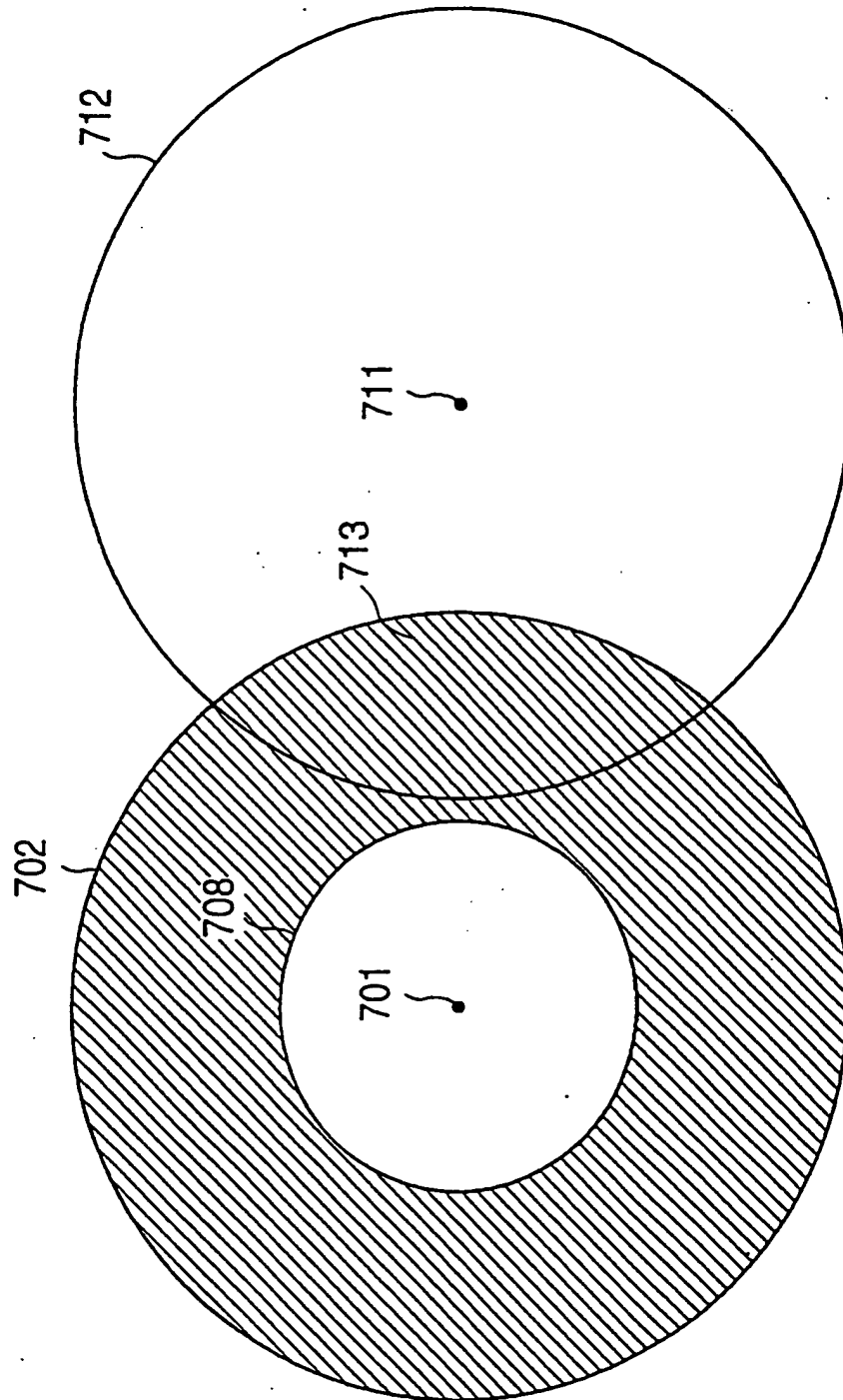


FIG. 55

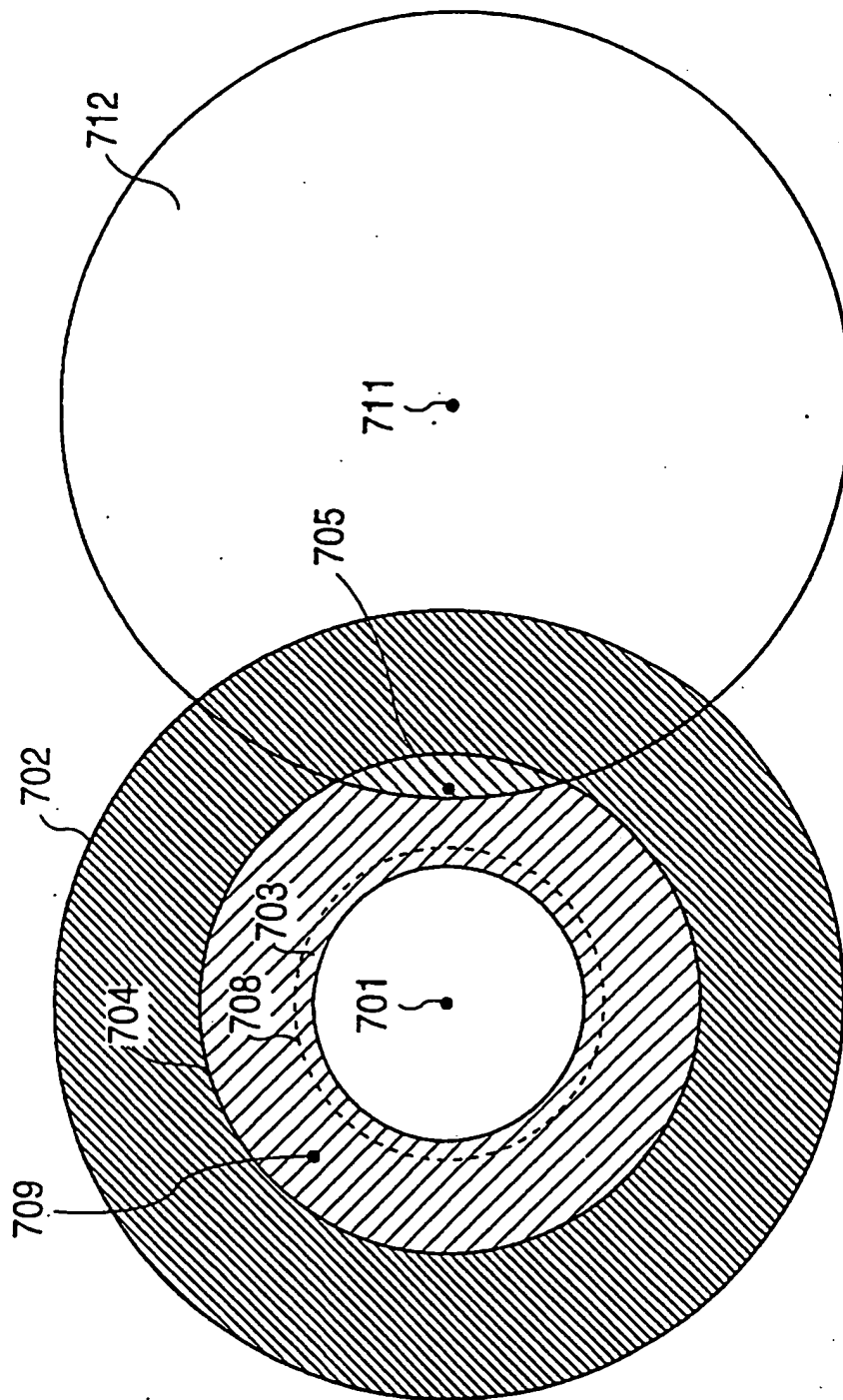


FIG. 56

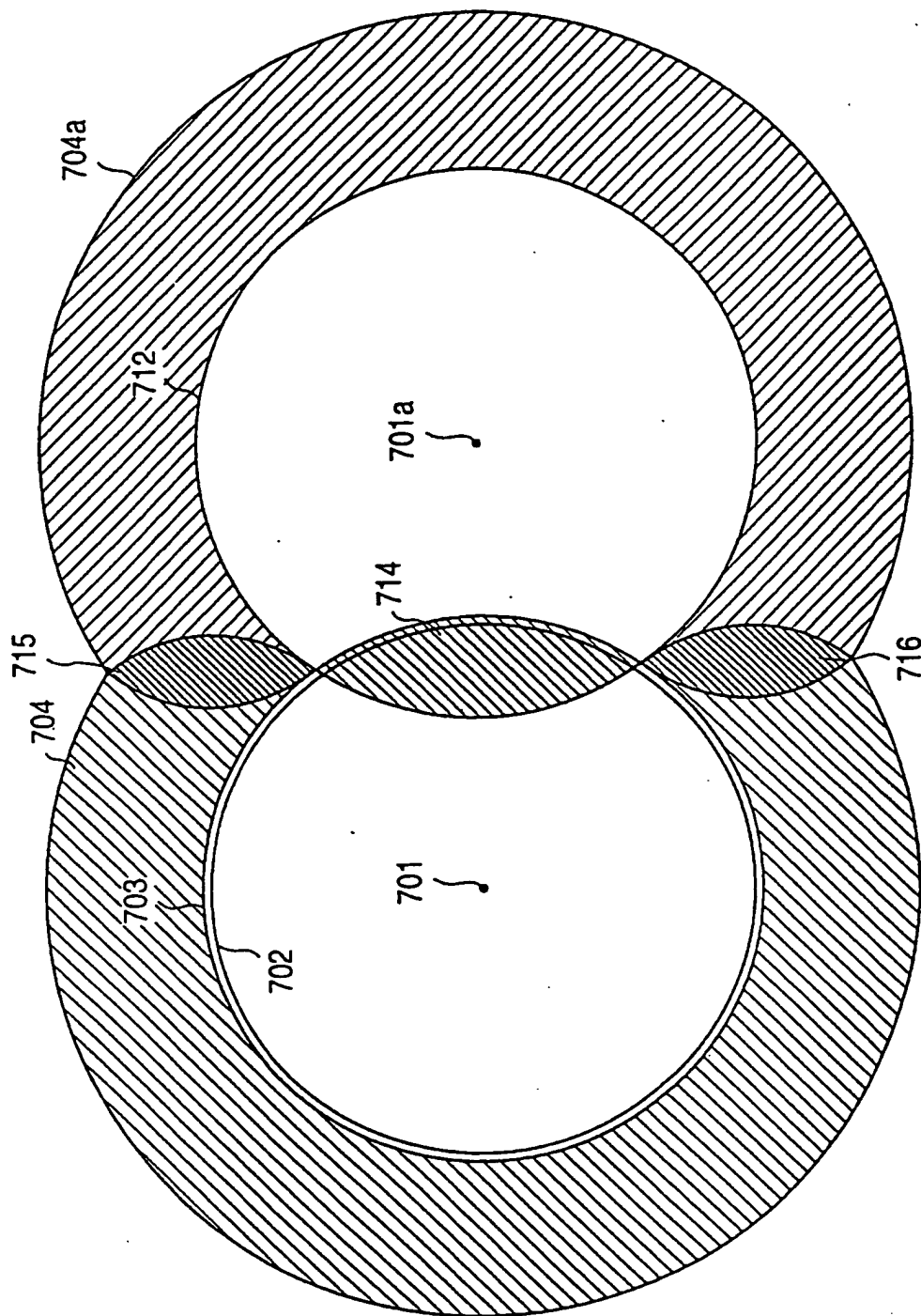


FIG. 57

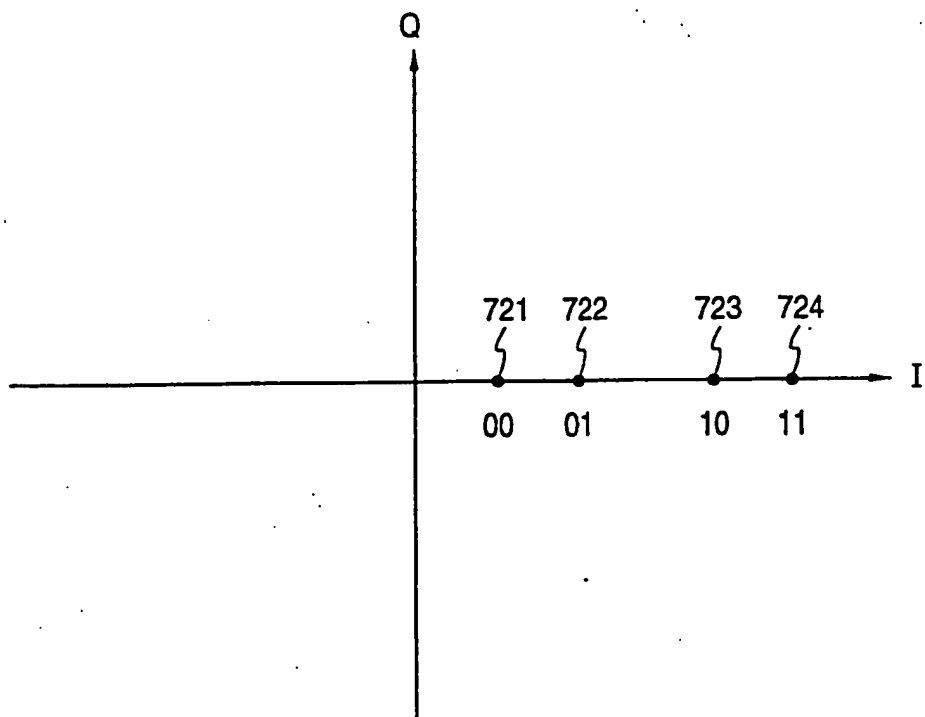


FIG. 58

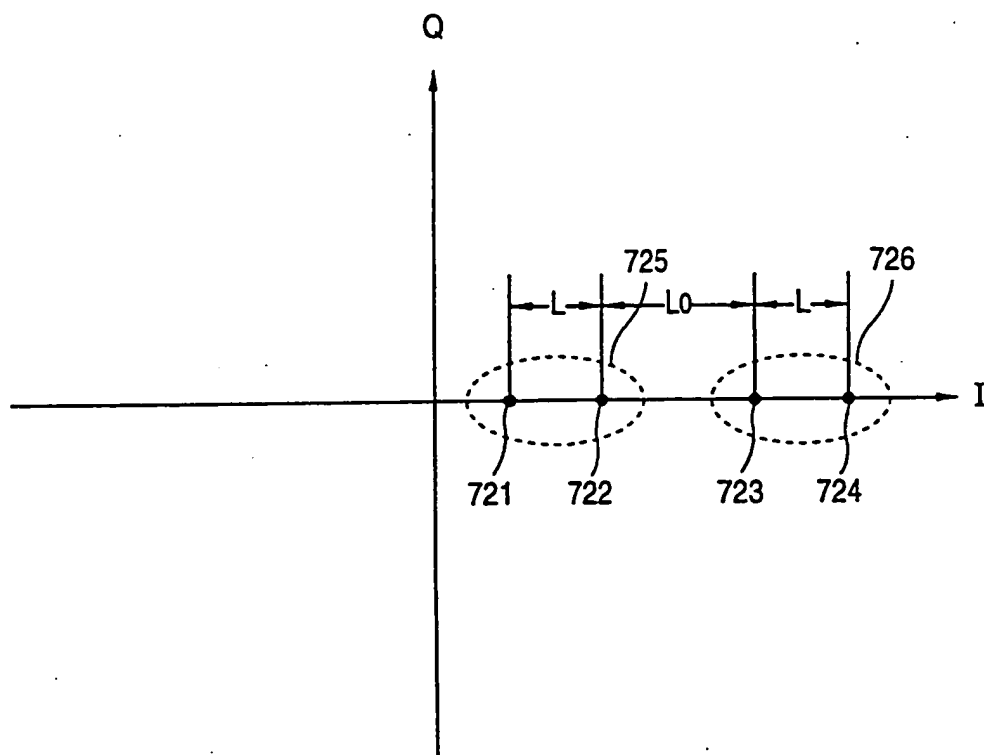


FIG. 59(a)

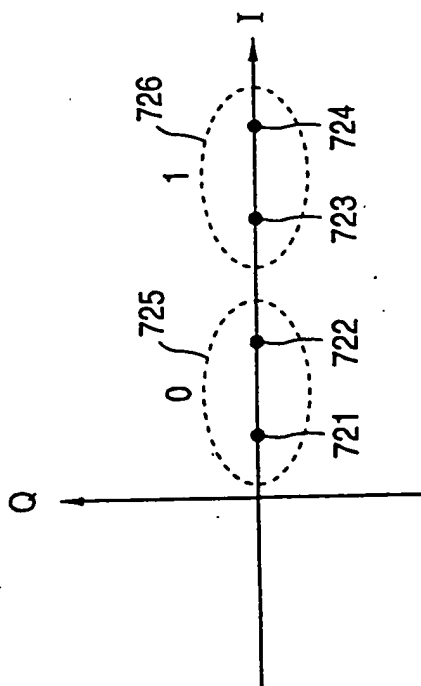


FIG. 59(c)

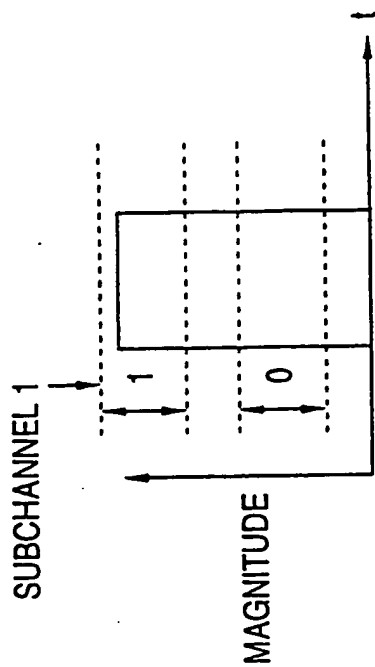


FIG. 59(b)

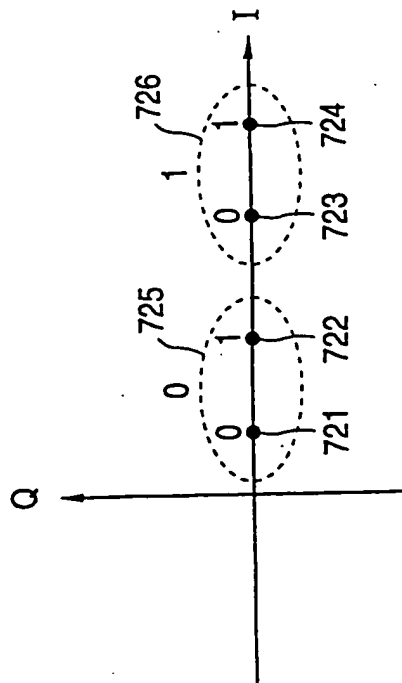


FIG. 59(d)

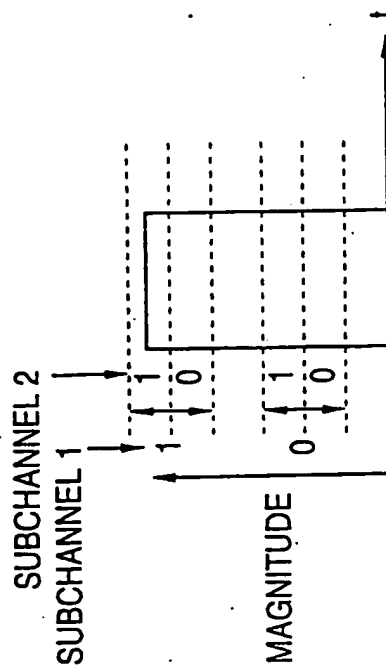


FIG. 60

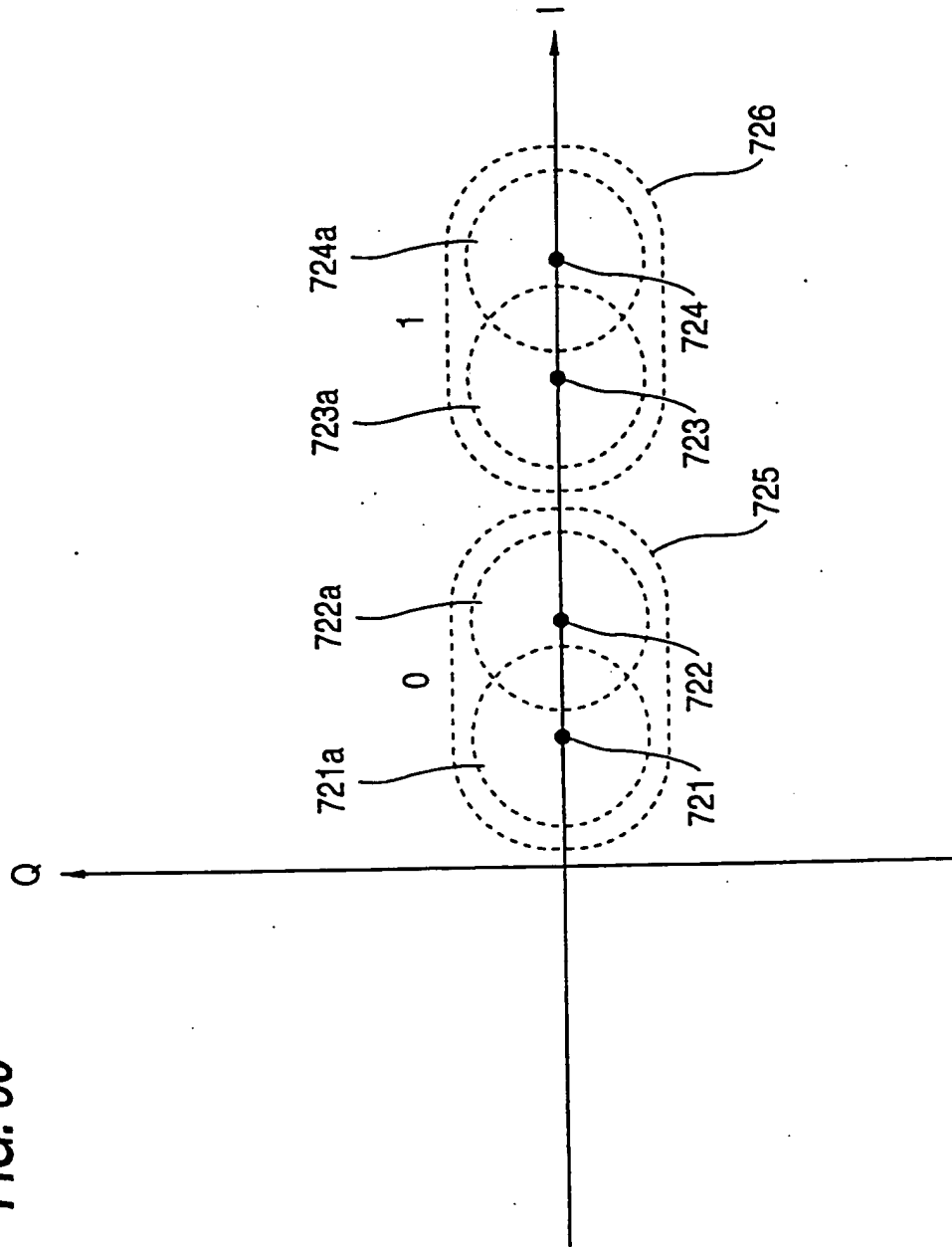


FIG. 61

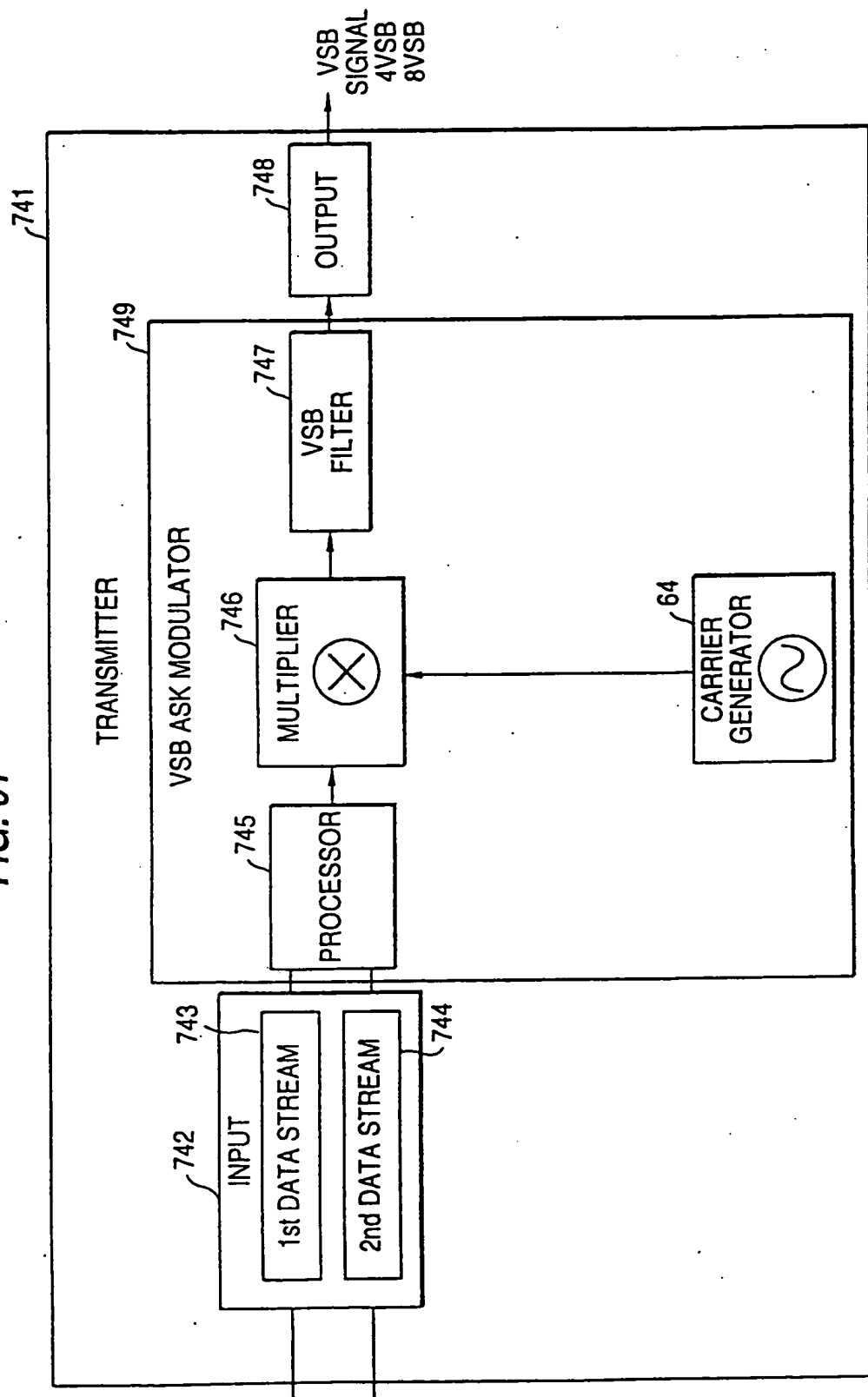


FIG. 62(a)

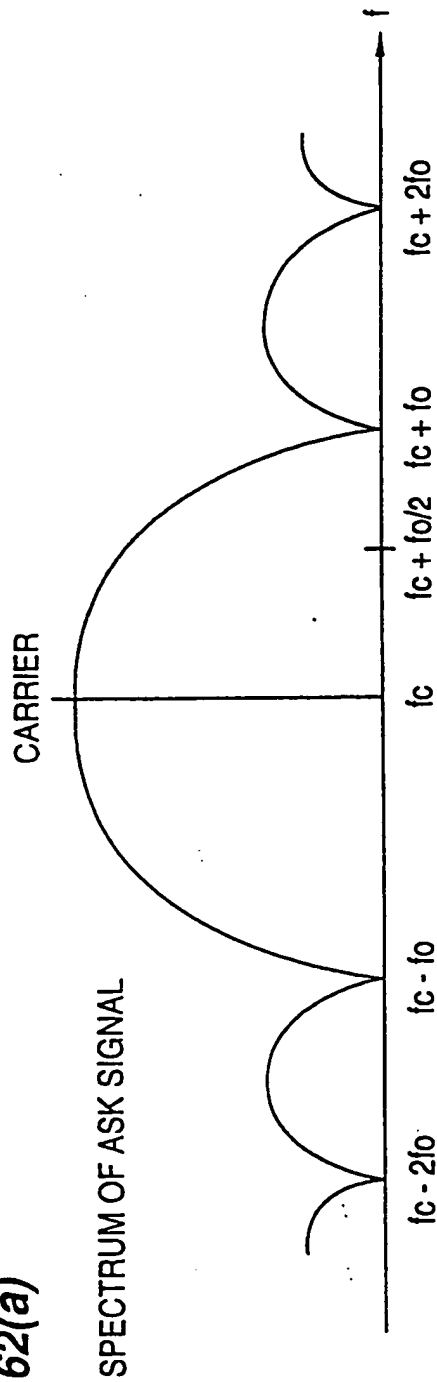


FIG. 62(b)

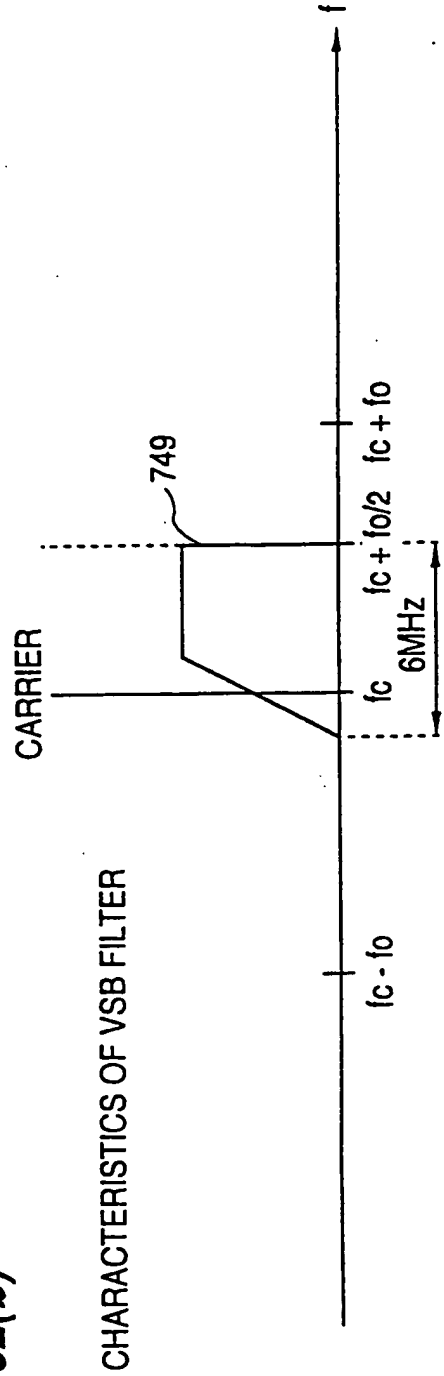


FIG. 63

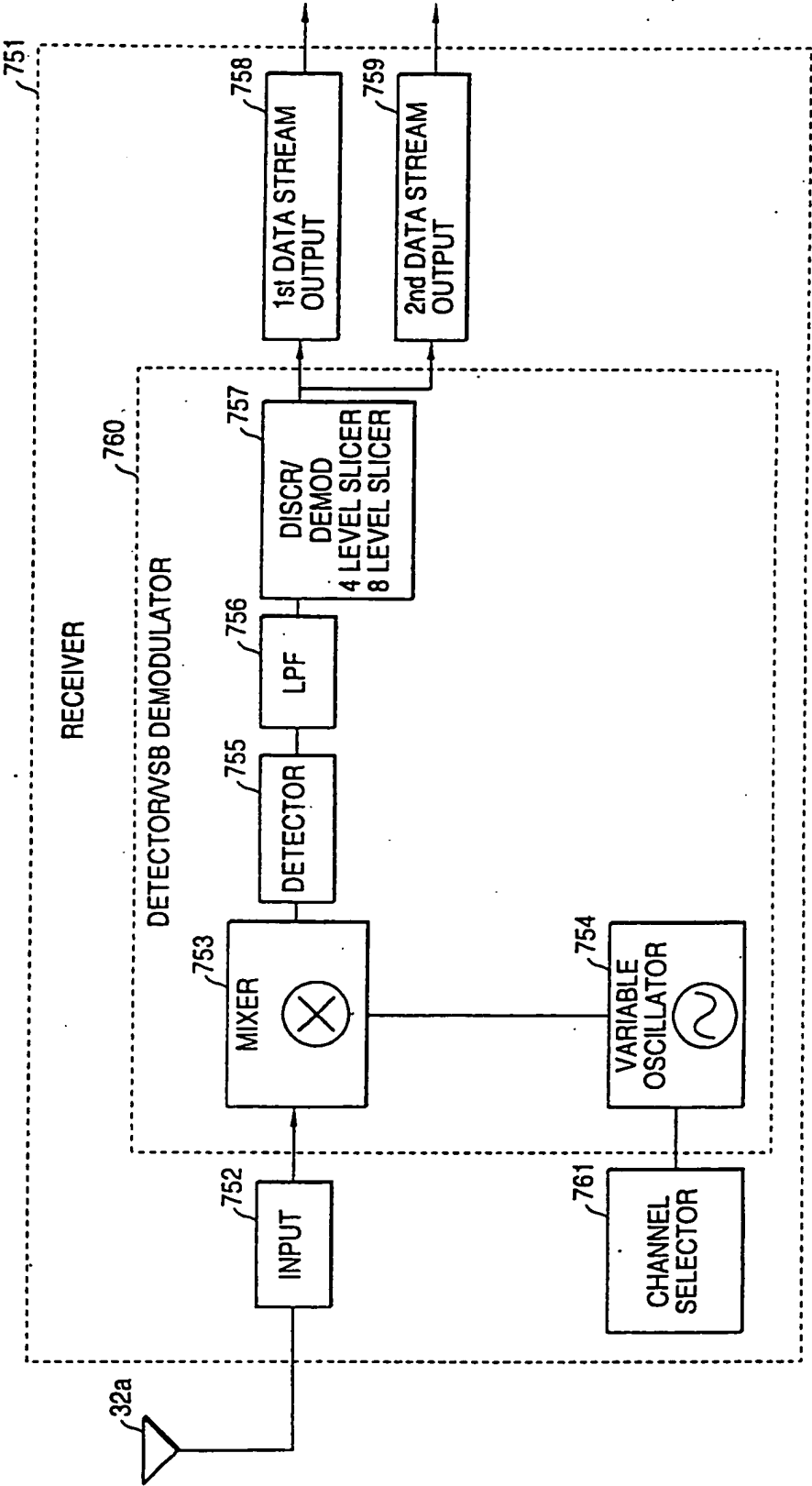


FIG. 64

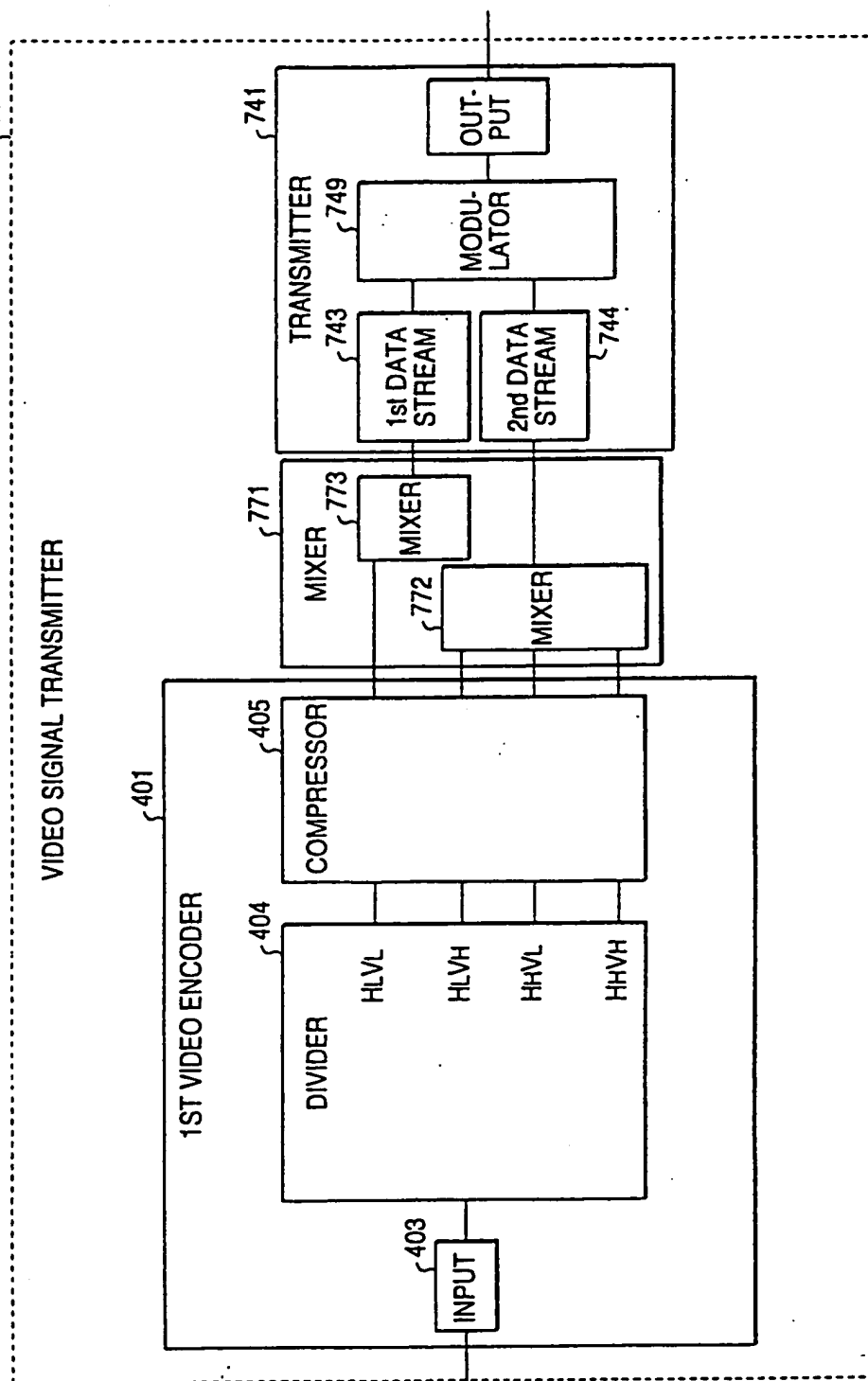


FIG. 65 (Amended)

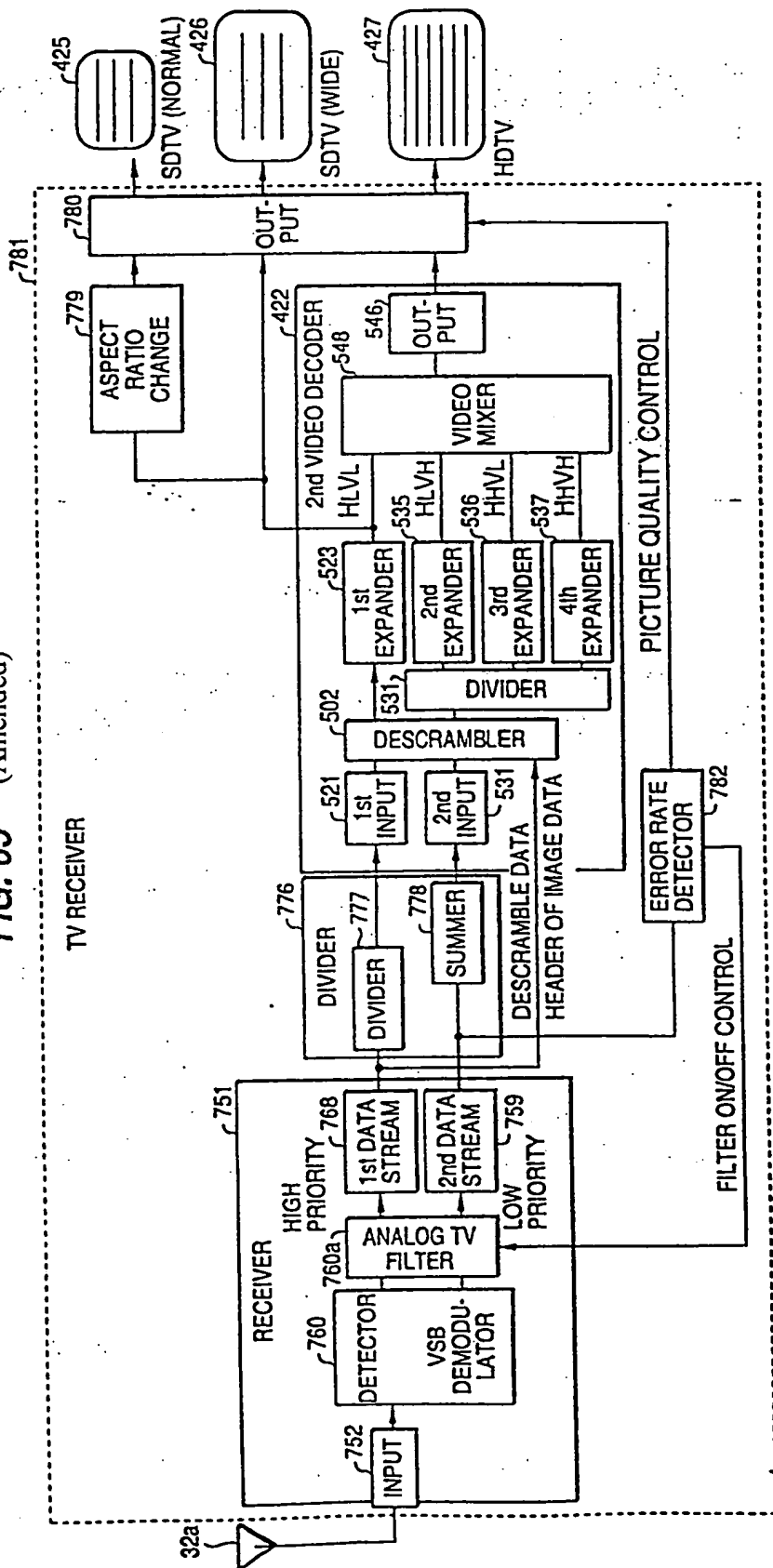


FIG. 66

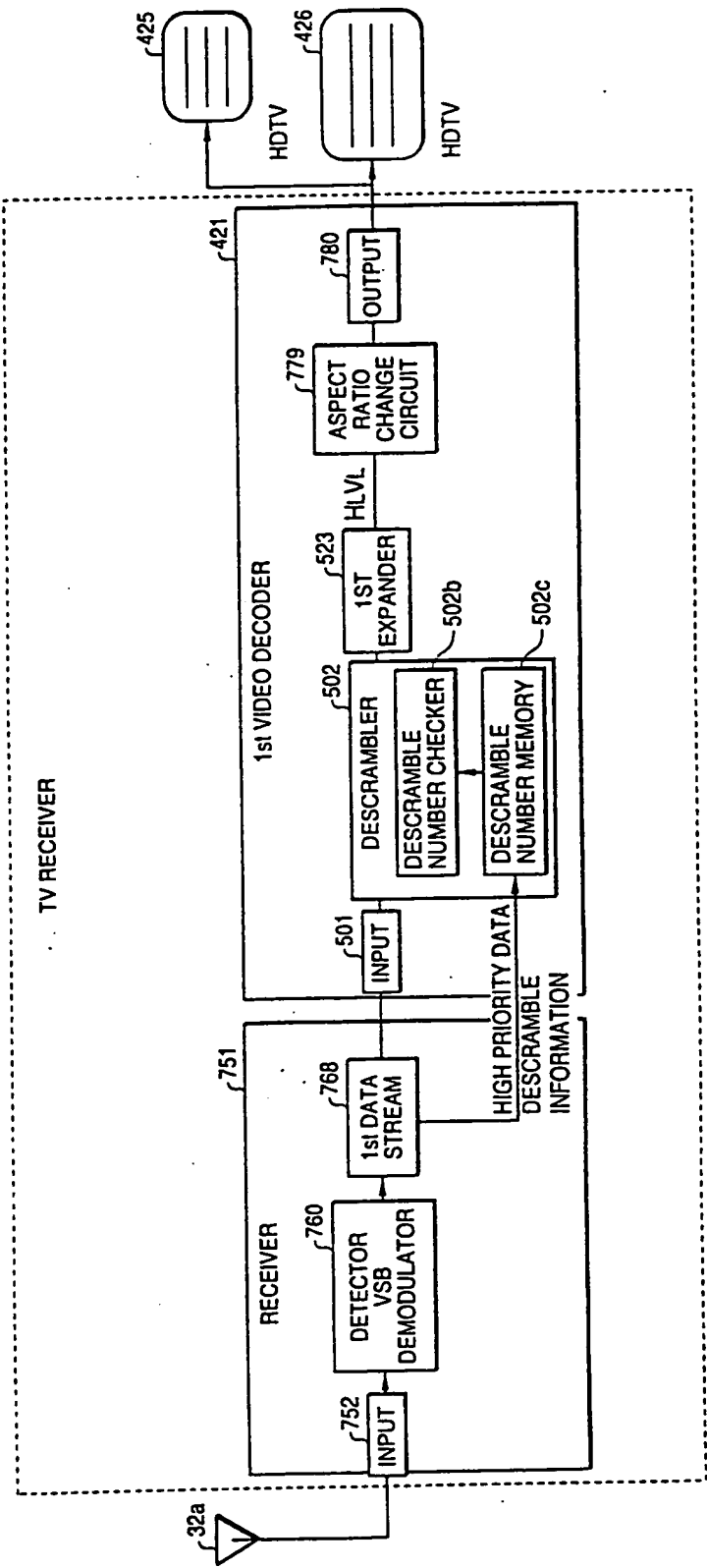
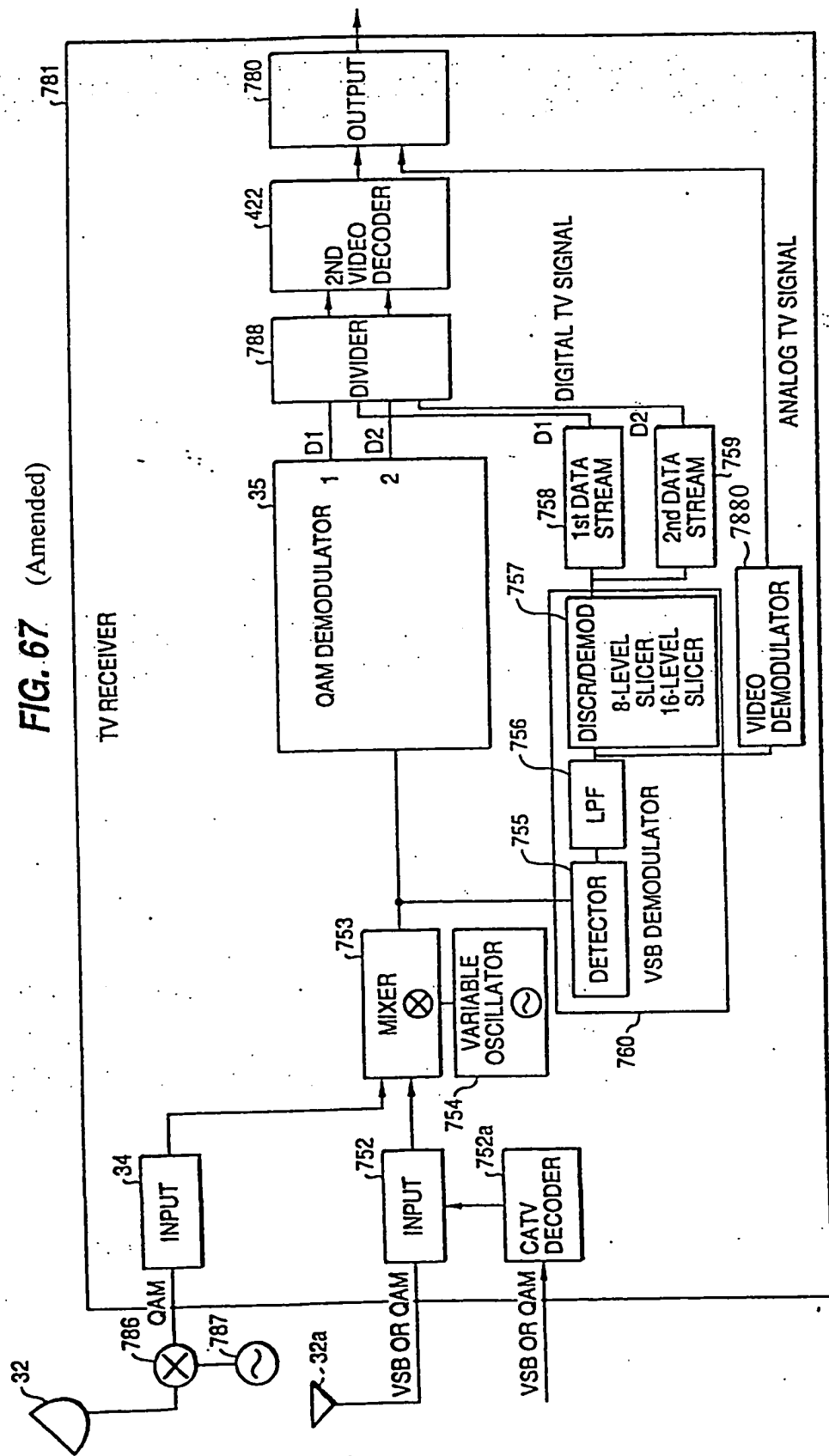


FIG. 67 (Amended)



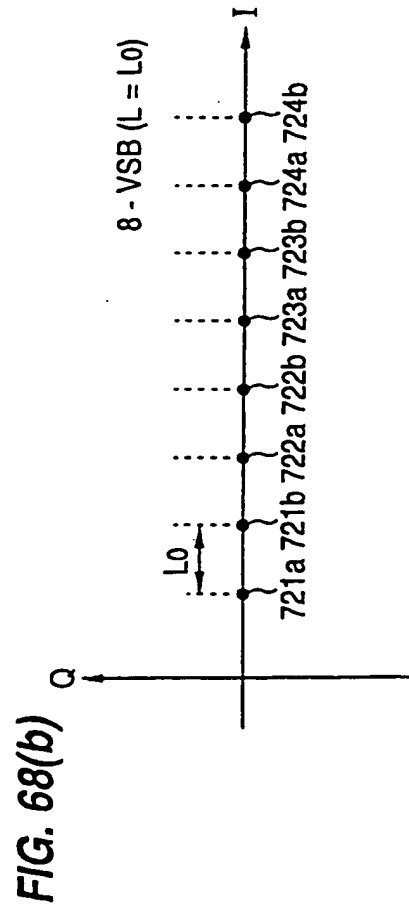
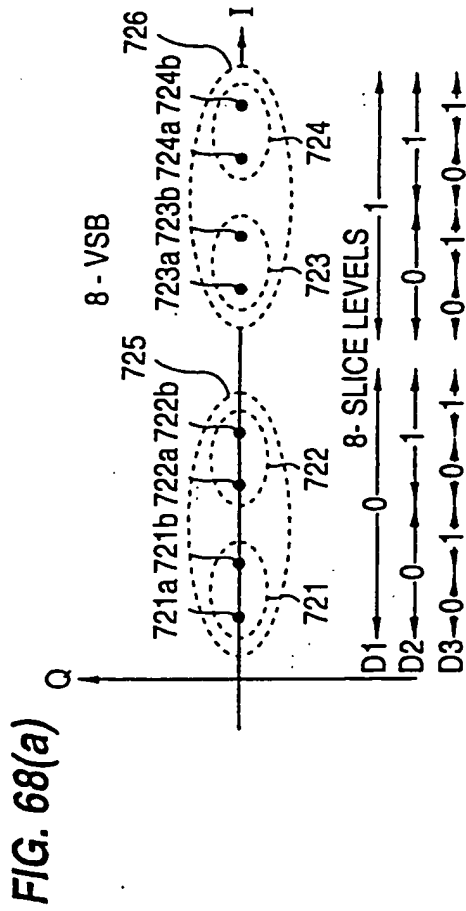


FIG. 68(c)

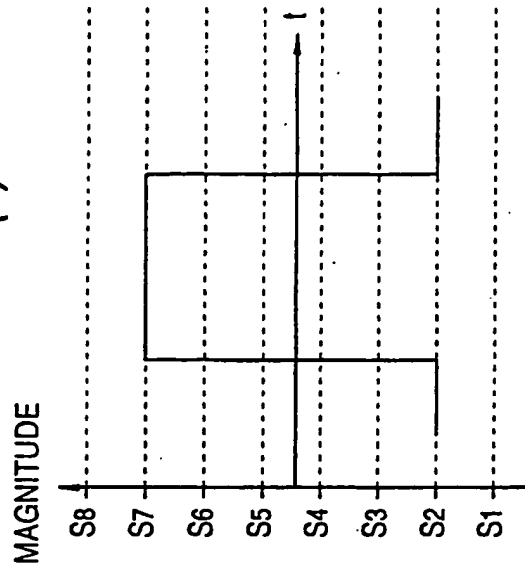


FIG. 69

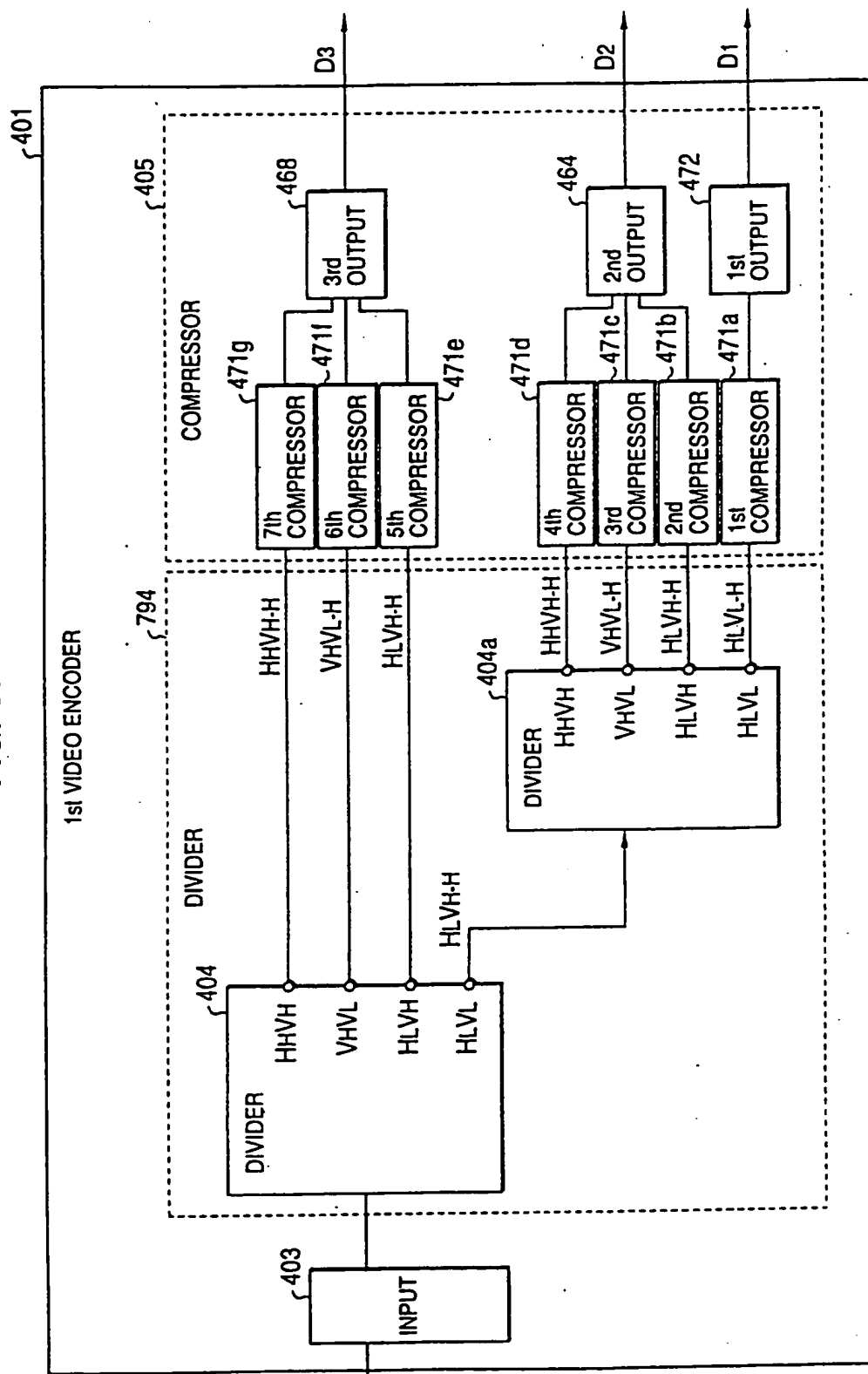


FIG. 70

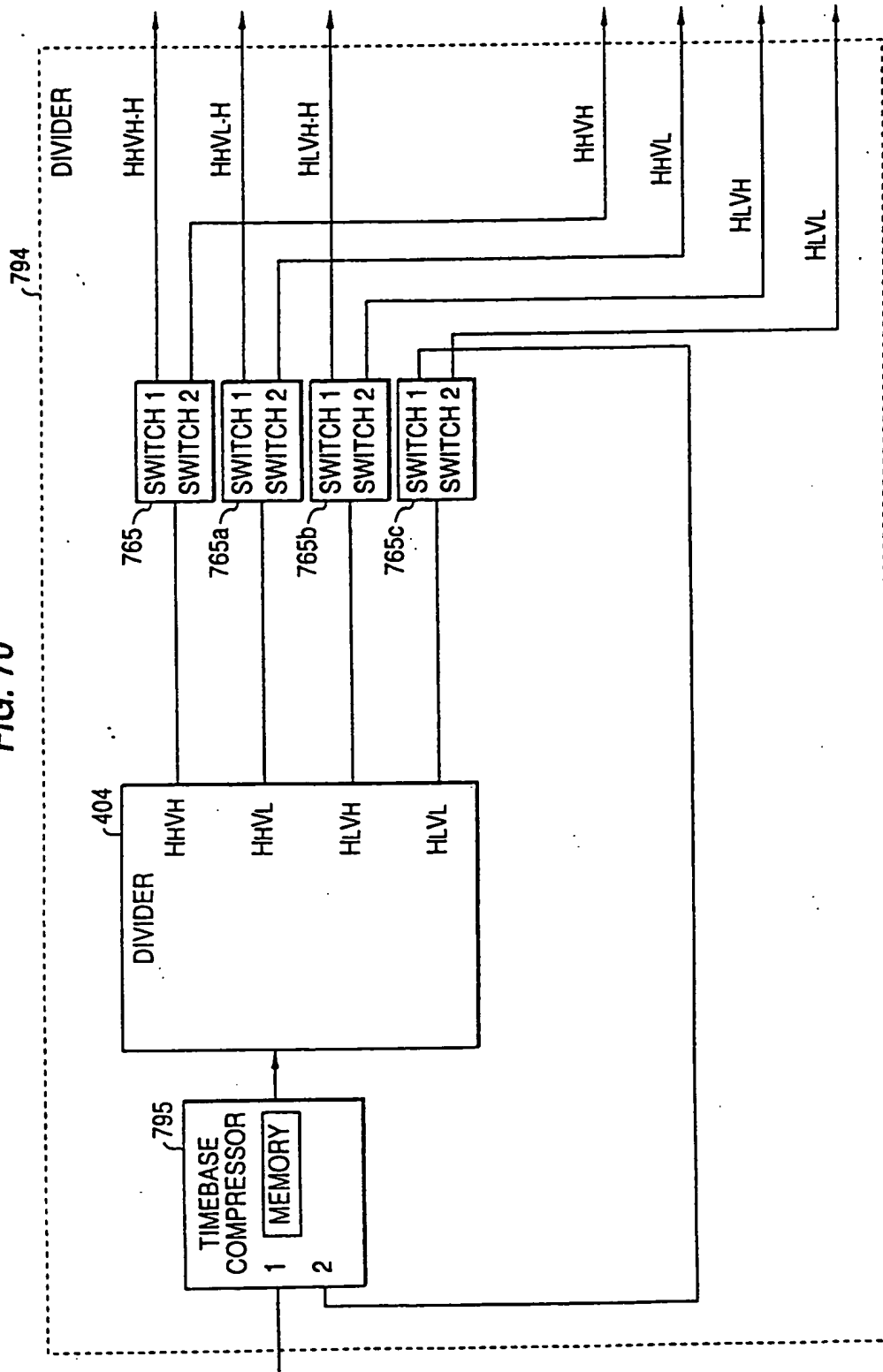


FIG. 71

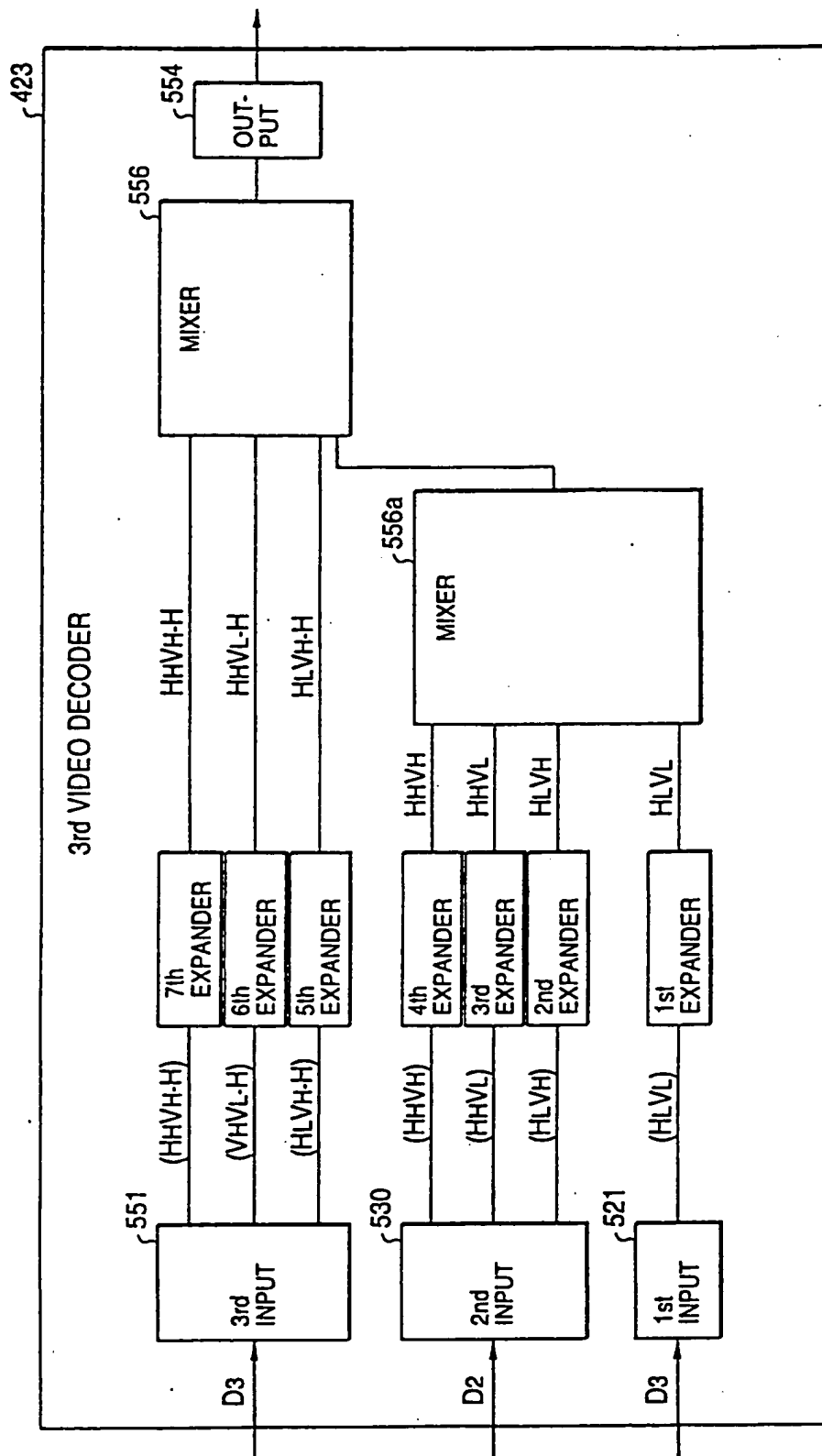


FIG. 72

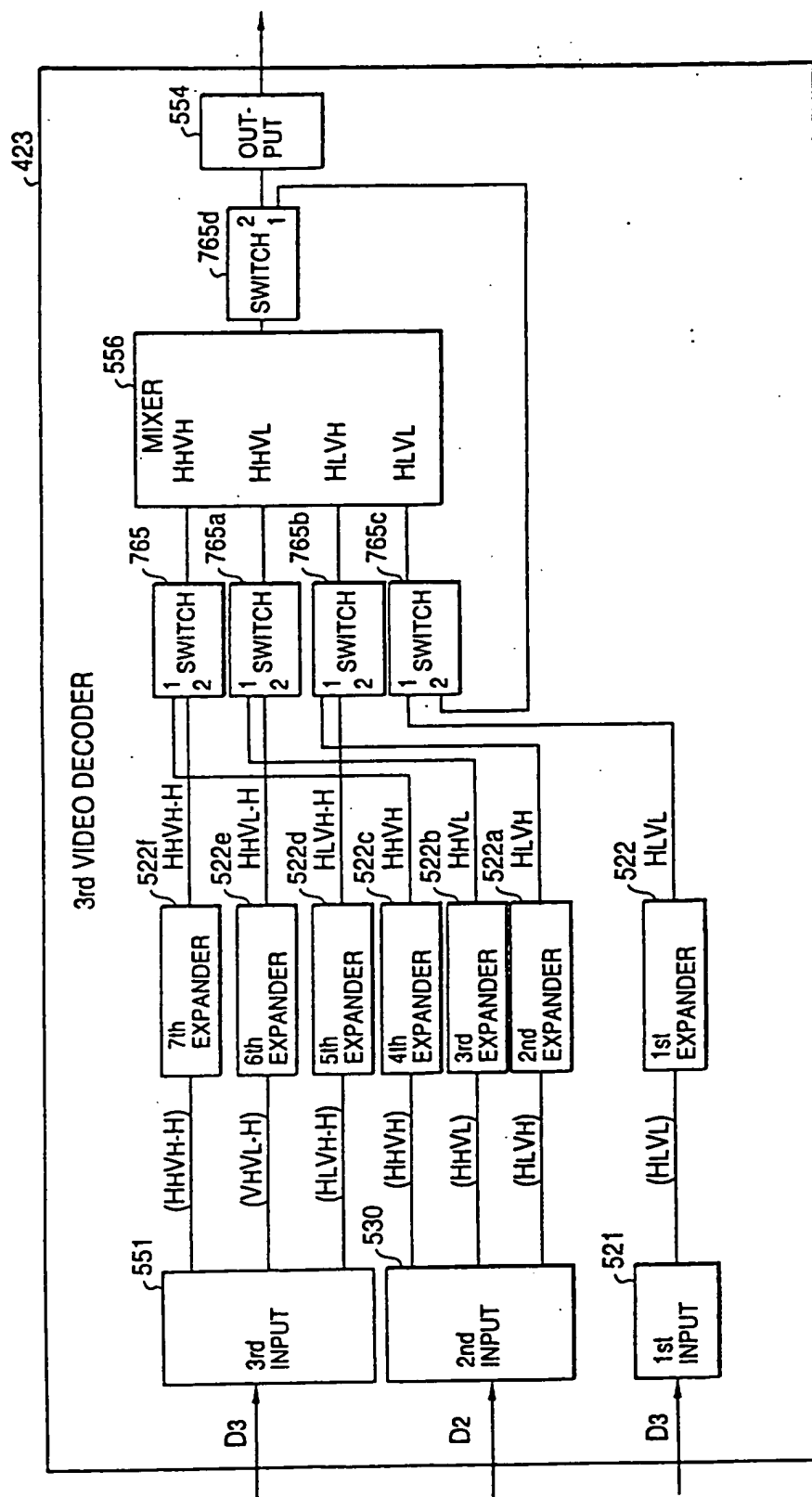


FIG. 73

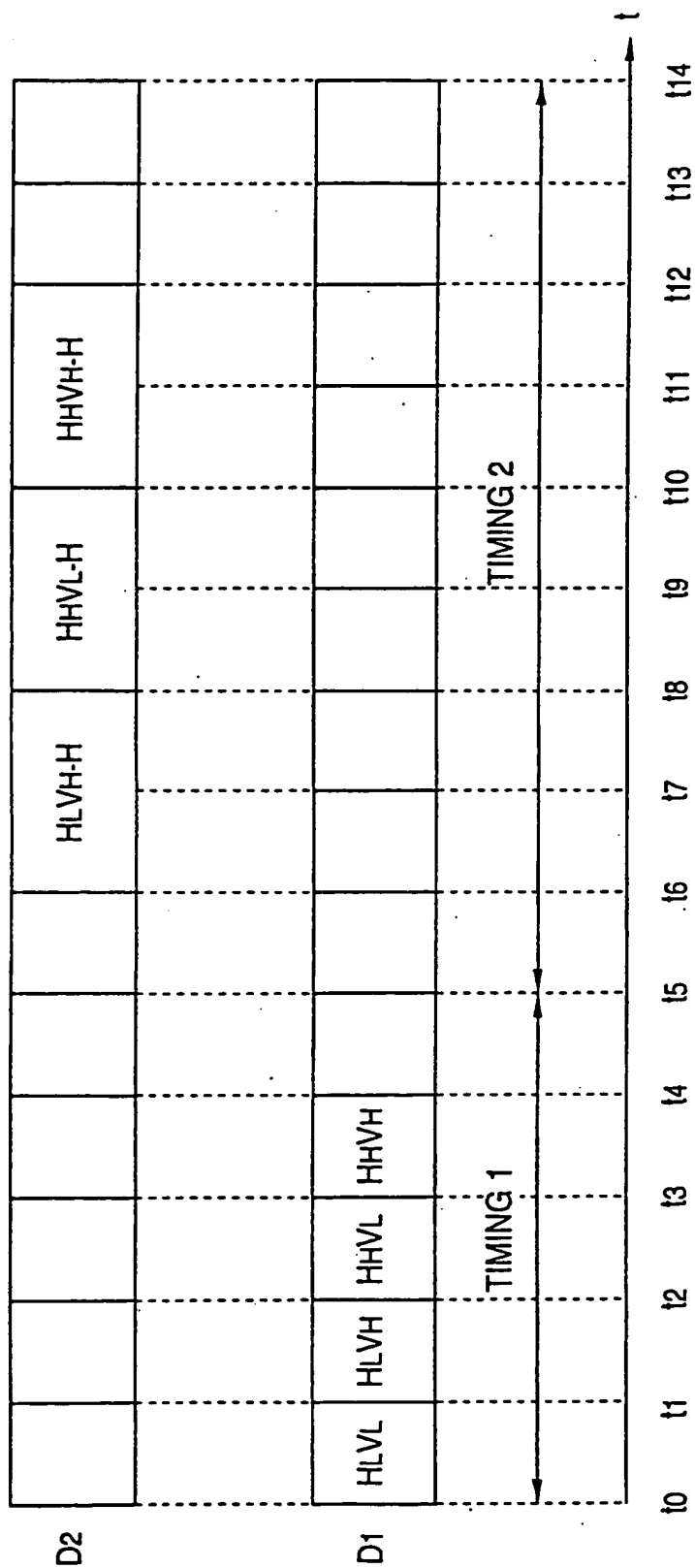


FIG. 74(a)

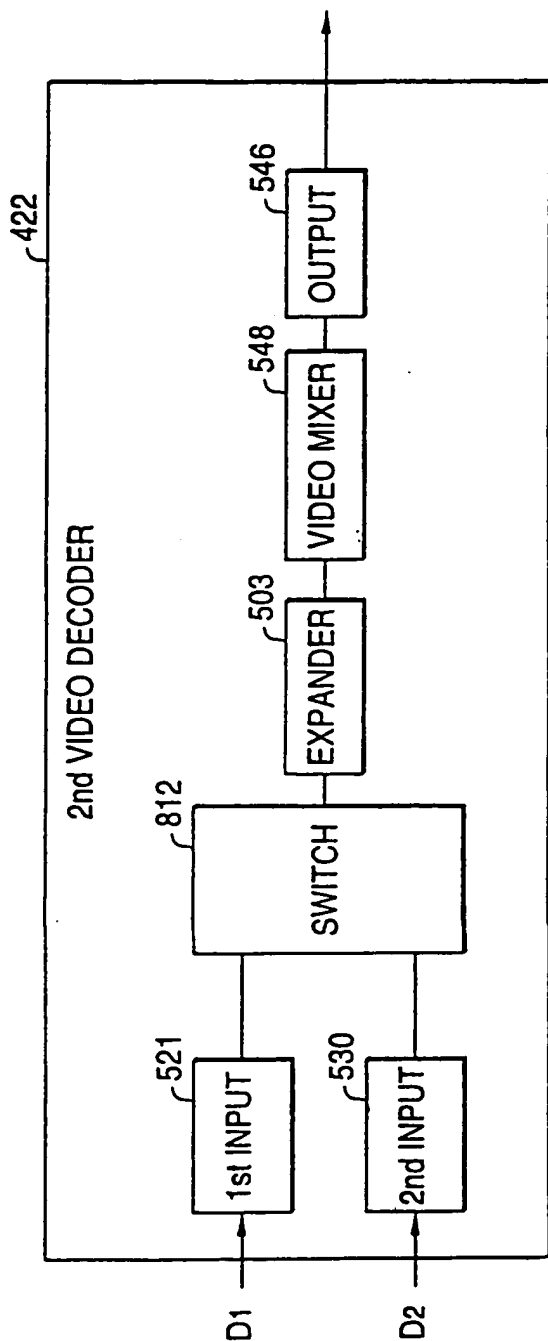


FIG. 74(b)

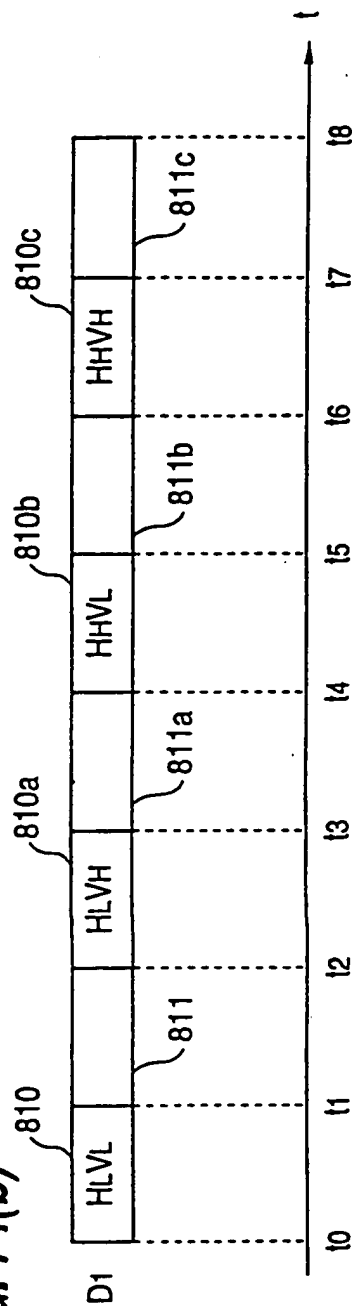


FIG. 76

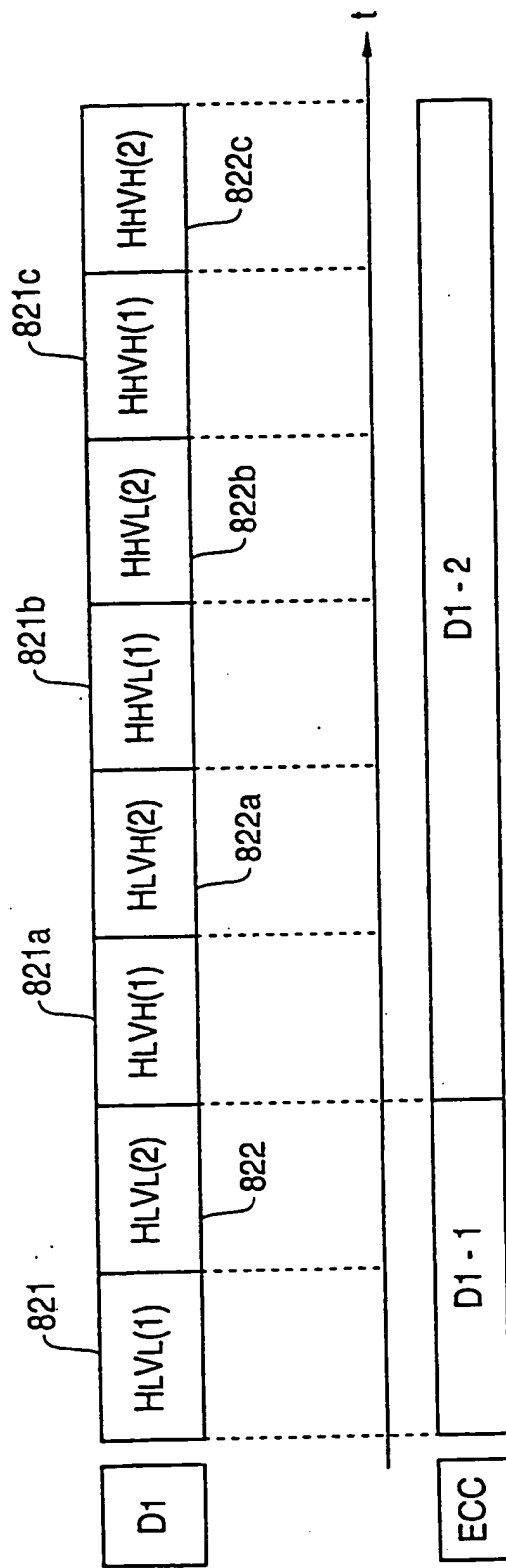


FIG. 77

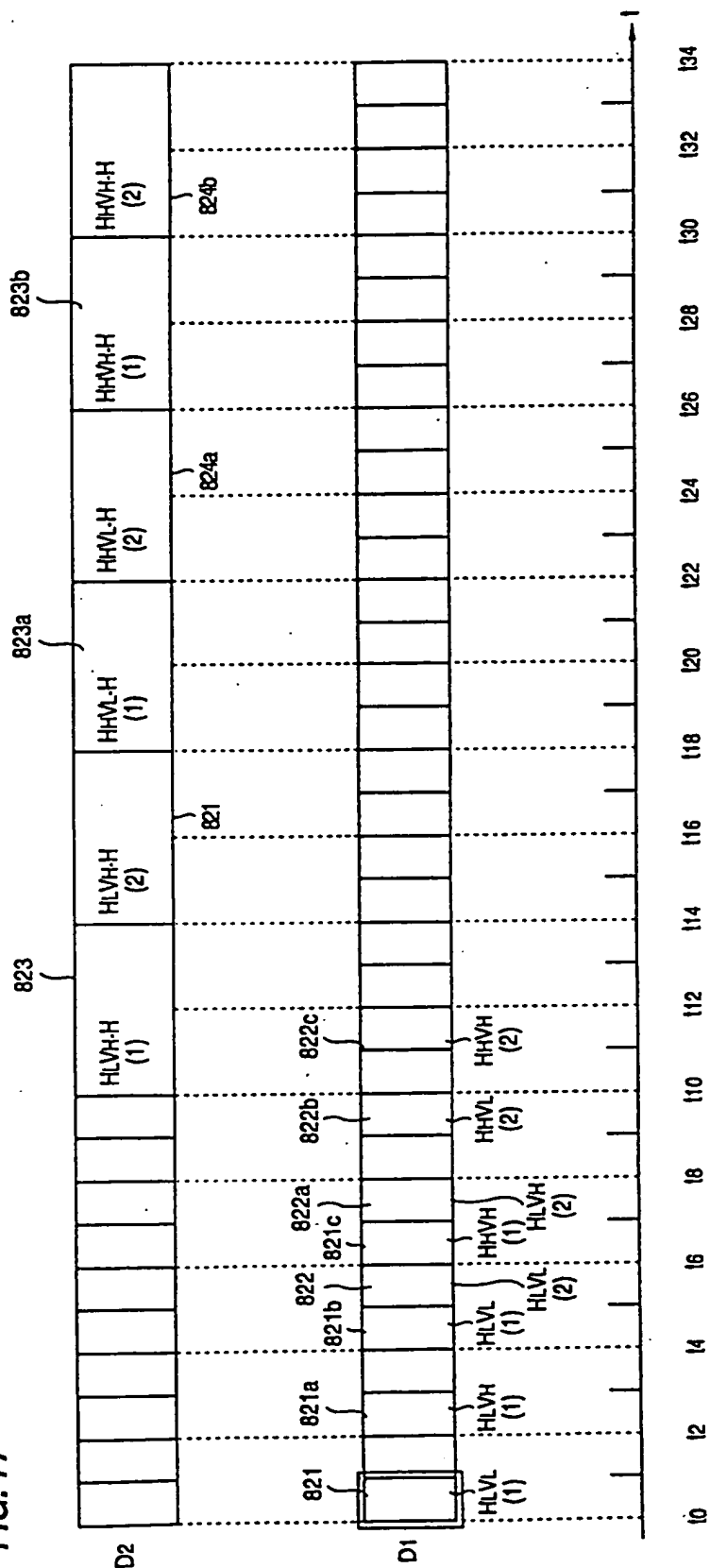


FIG. 78

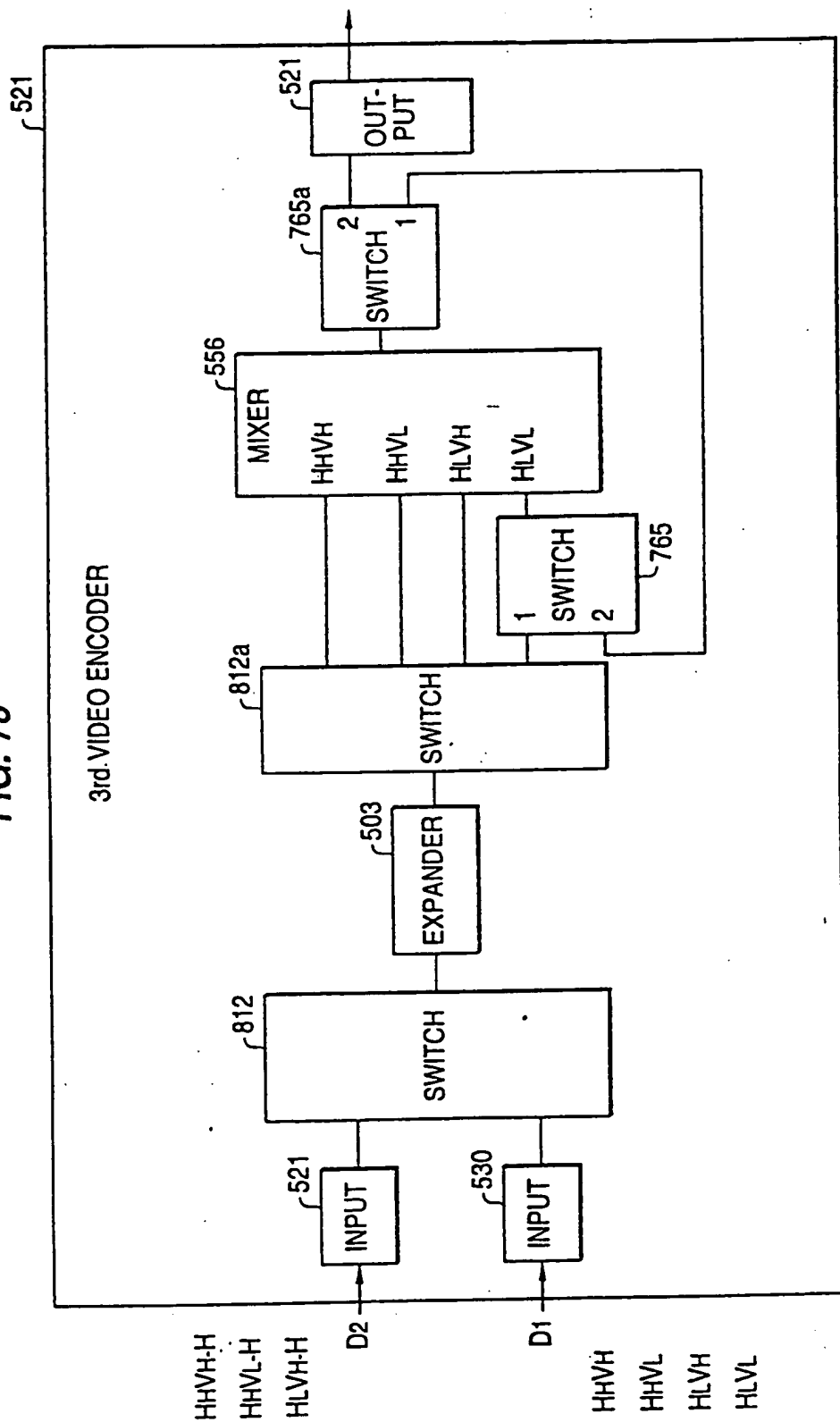


Figure 1 is a 3D grid diagram illustrating a sequence of events over time. The grid is divided into three vertical sections labeled 821, 823, and 823b. The horizontal axis represents time, with labels t1 through t17. The vertical axis represents three different planes or states, labeled D1, D2, and D3. The grid is composed of a series of cells, with some cells containing labels indicating specific events or states. The labels are as follows:

- Section 821: HLVL(1) at t12, HLVL(1) at t1.
- Section 823: HLVL(1) at t13, HLVL(1) at t14, HLVL(1) at t15.
- Section 823b: HLVL(1) at t16, HLVL(1) at t17.

The grid is further divided into three vertical sections by dashed lines, with labels 821, 823, and 823b indicating the sections. The time axis is labeled t1 through t17, and the vertical axis is labeled D1, D2, and D3.

FIG. 80

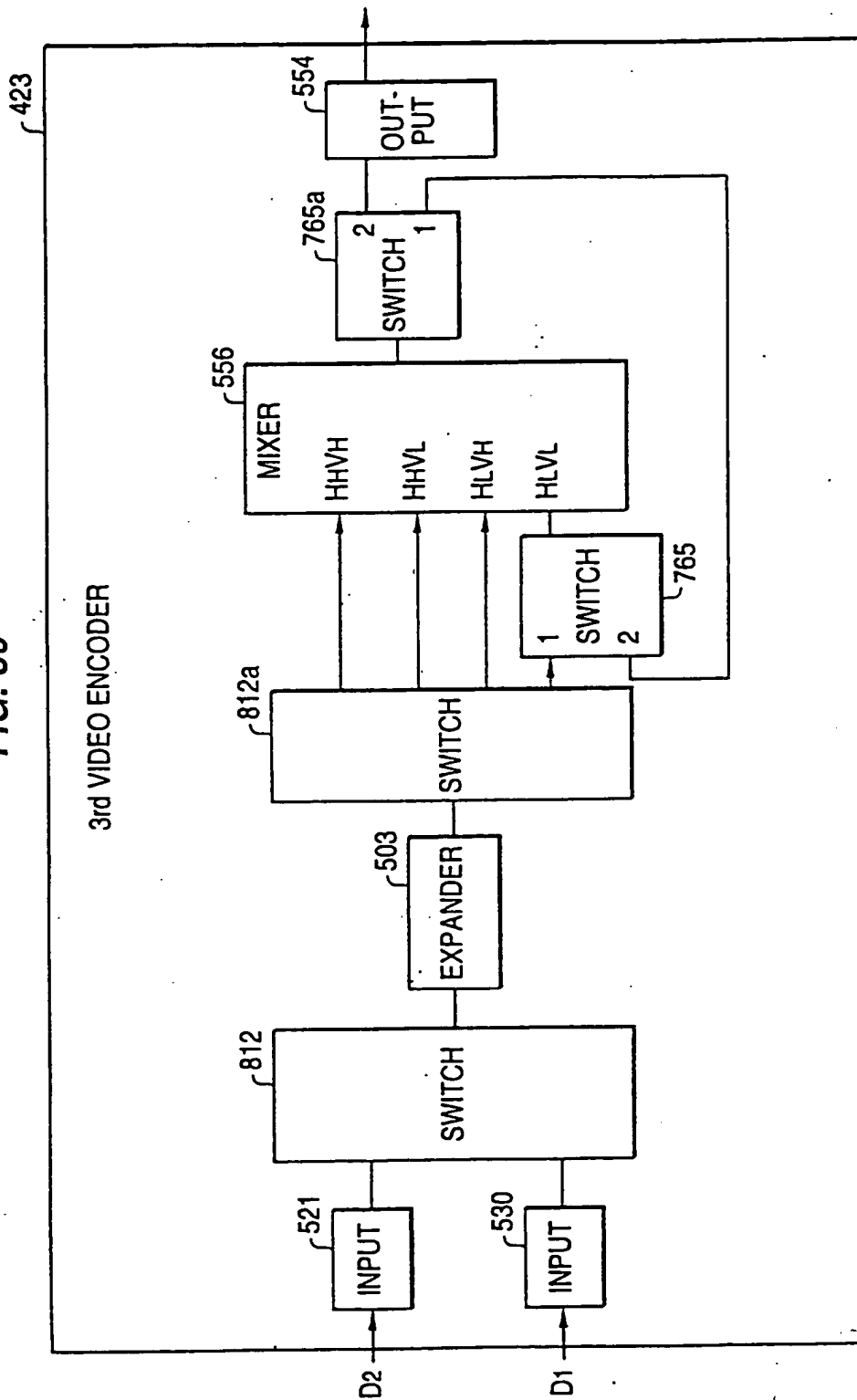


FIG. 81

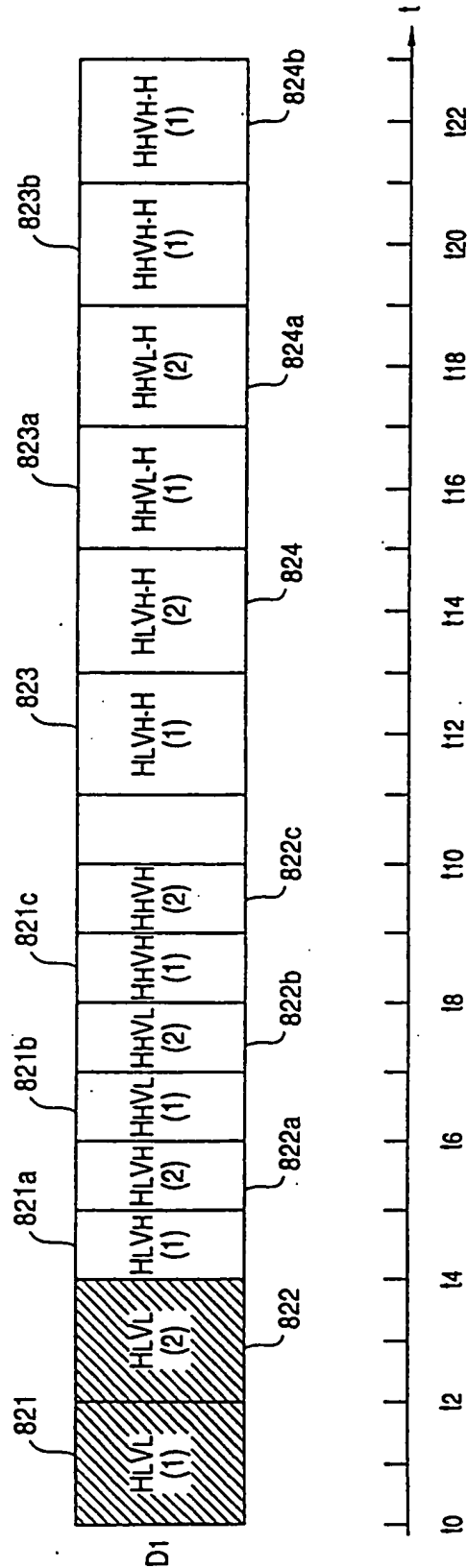


FIG. 82

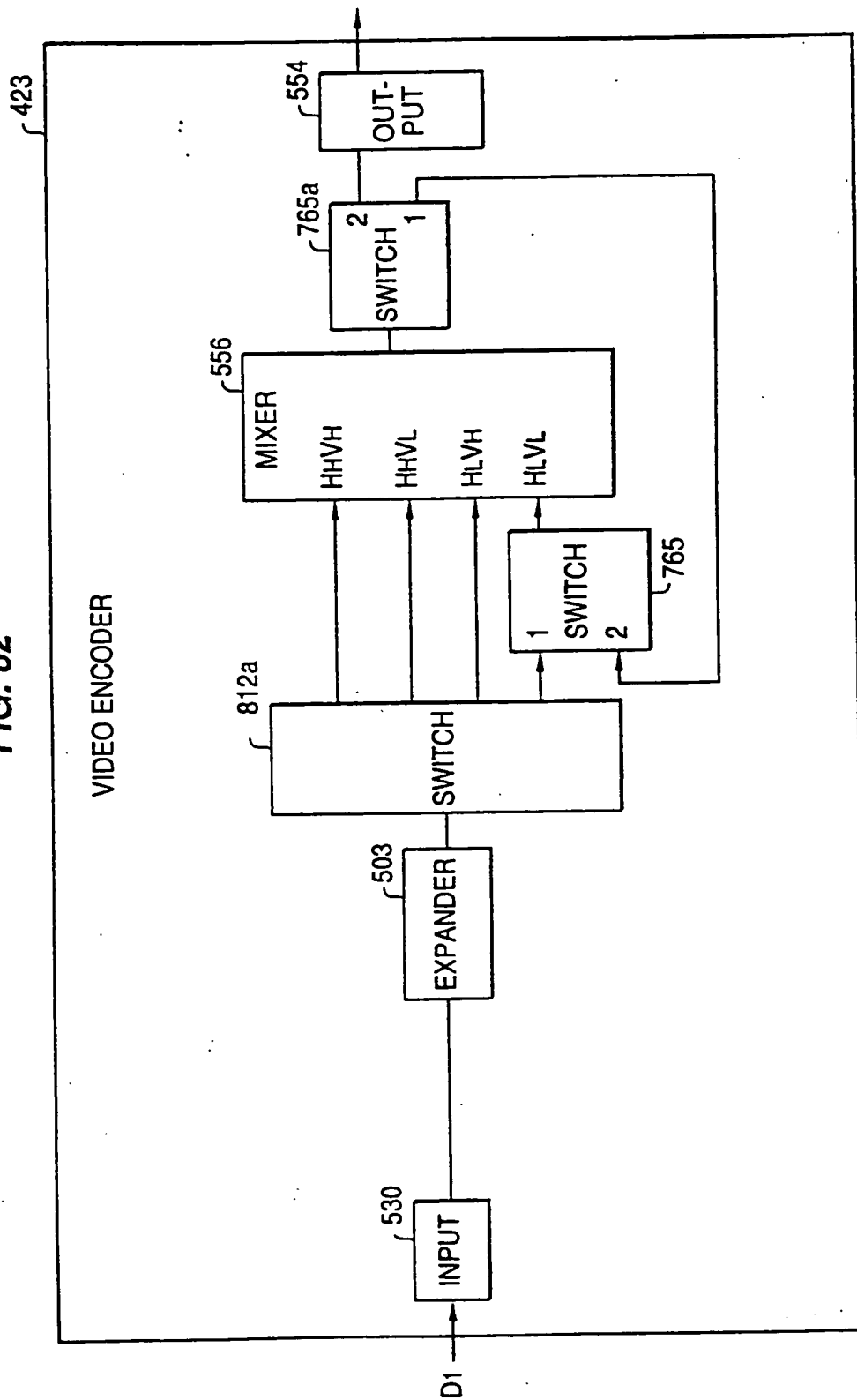


FIG. 83

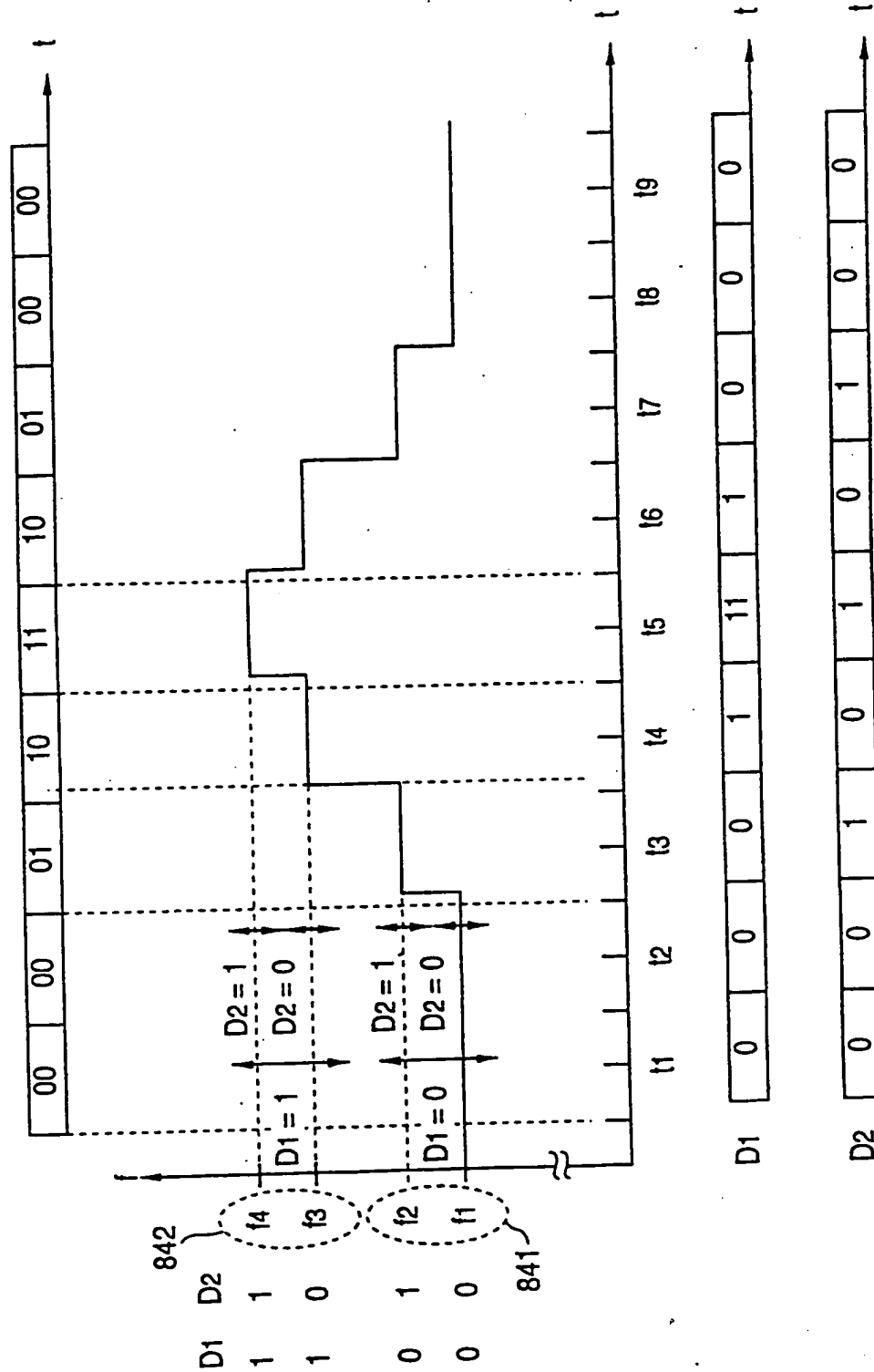


FIG. 84

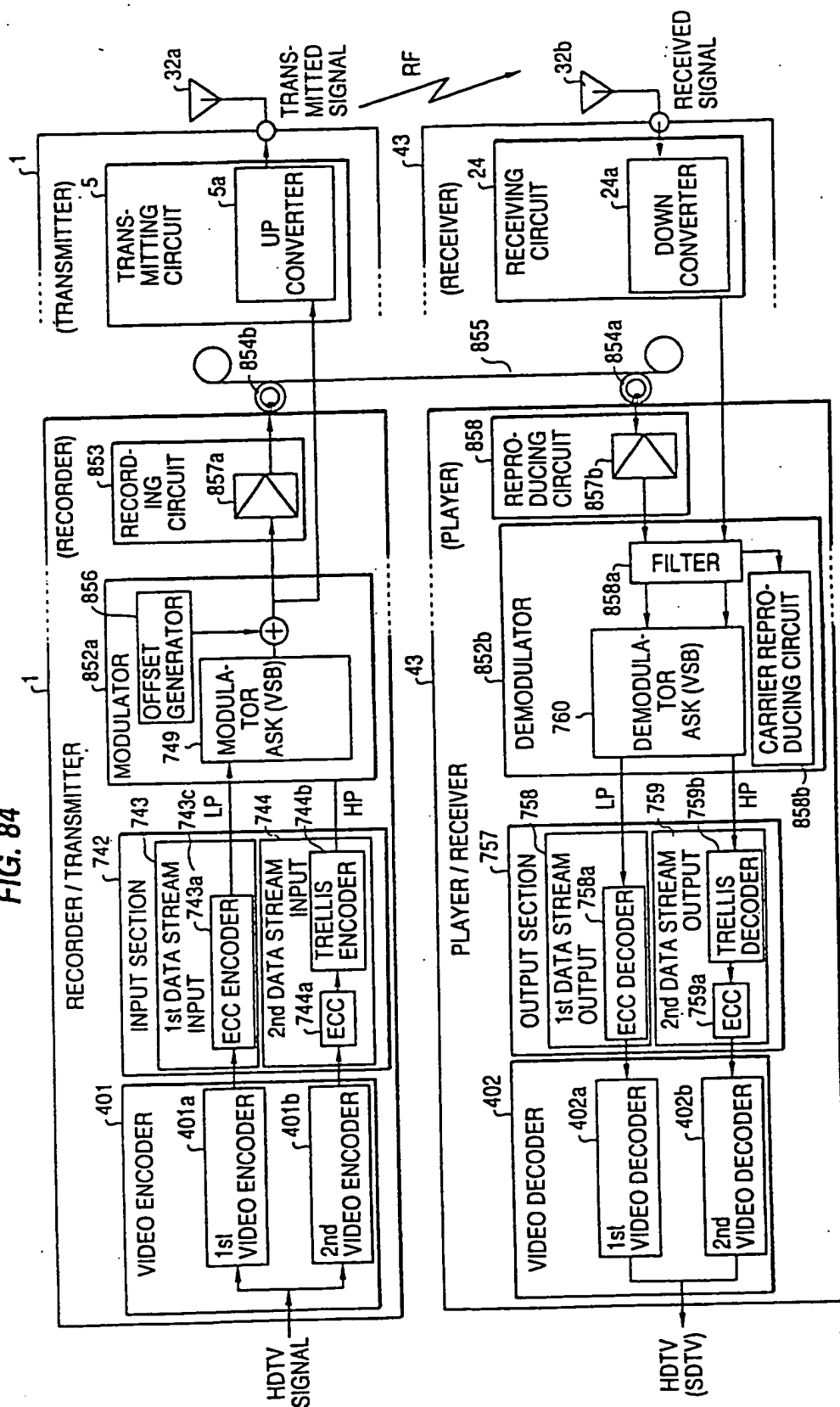


FIG. 85

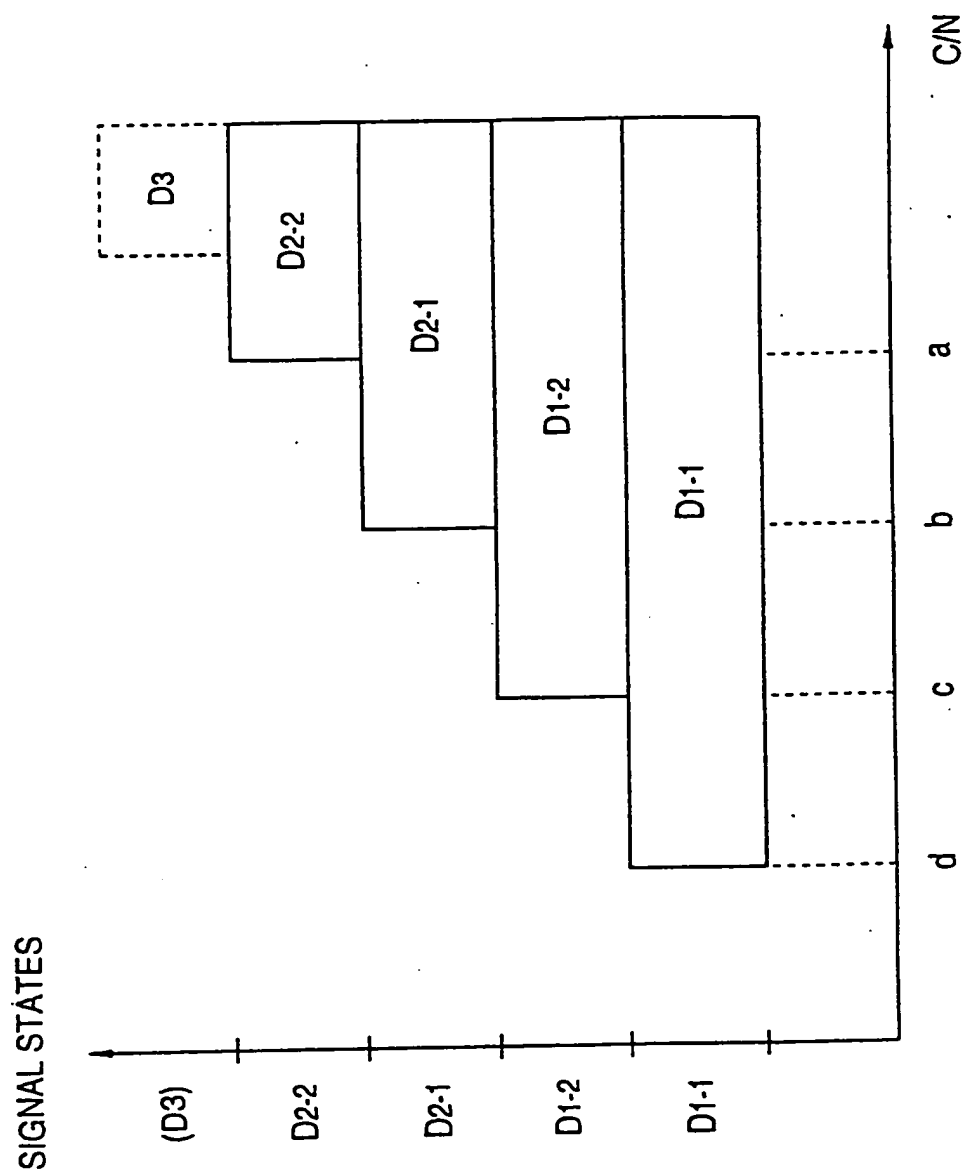


FIG. 86

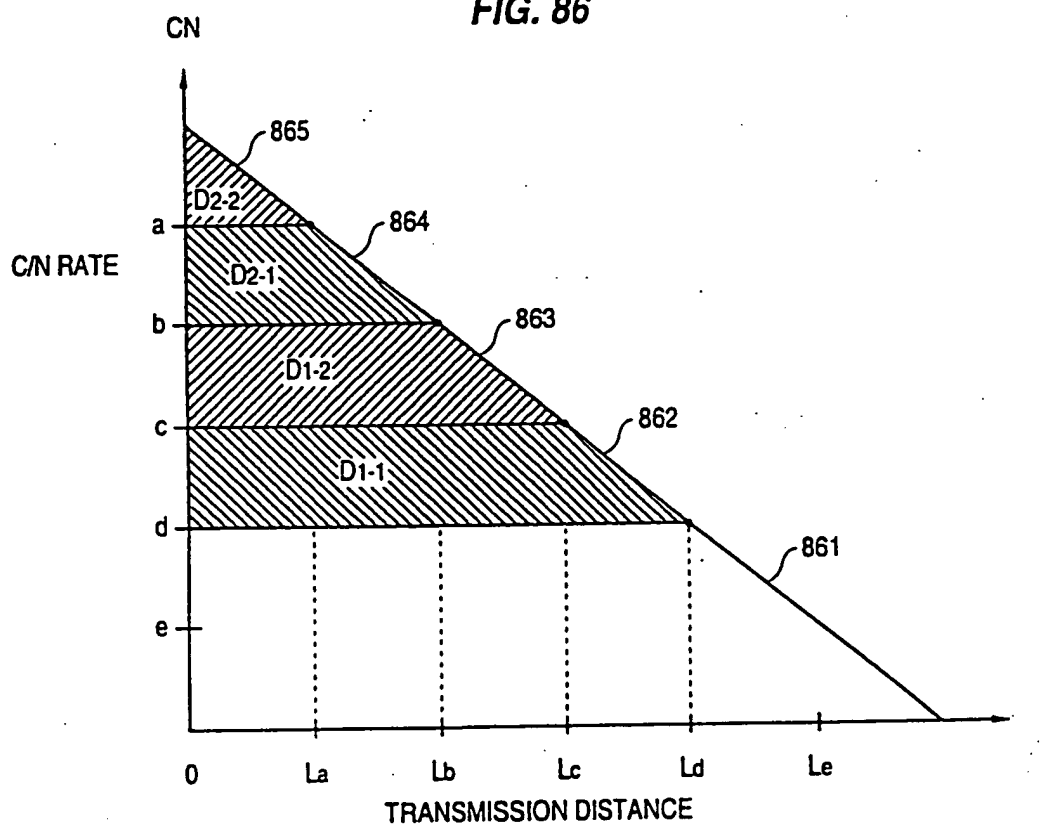


FIG. 87

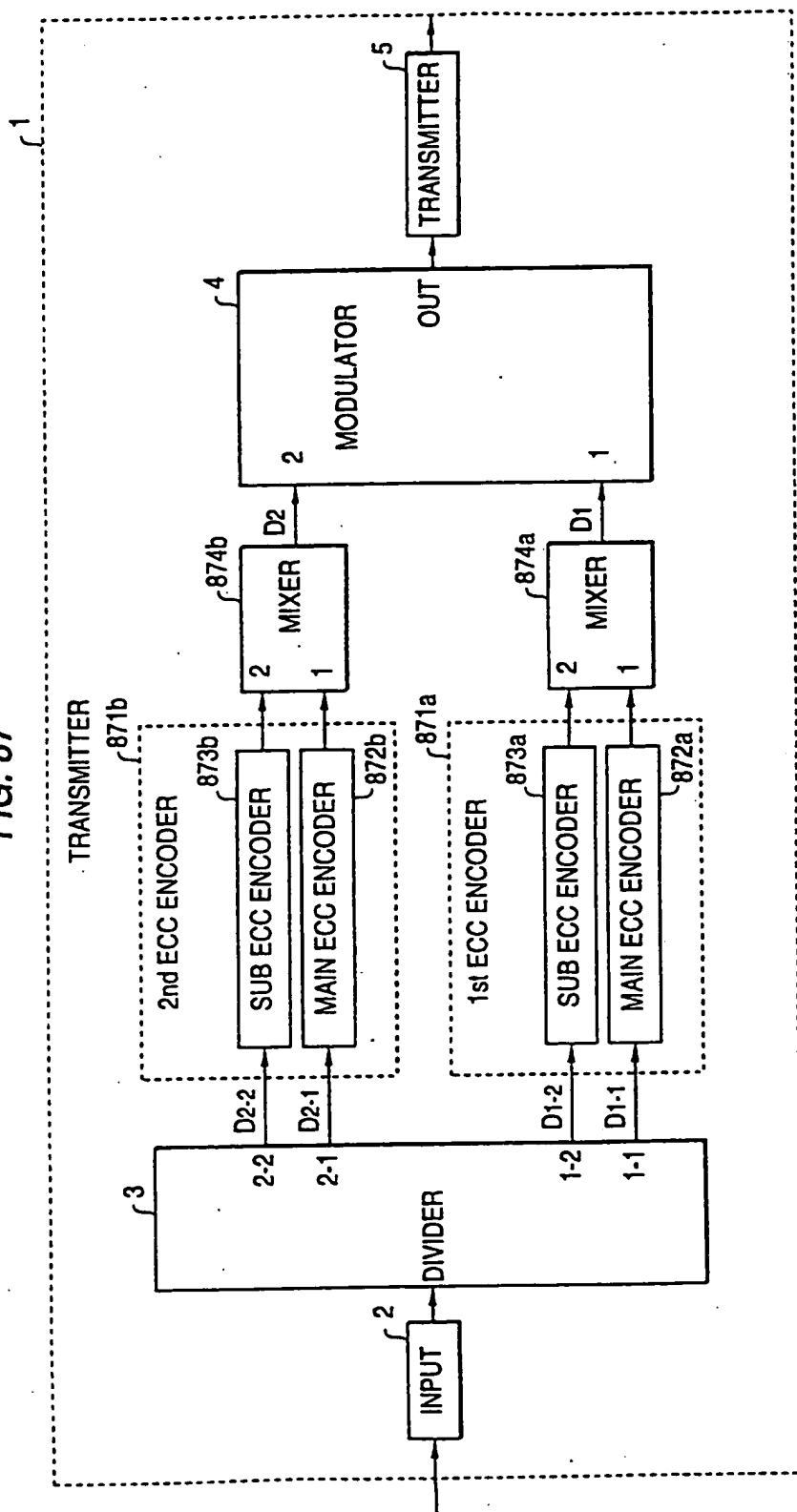


FIG. 88

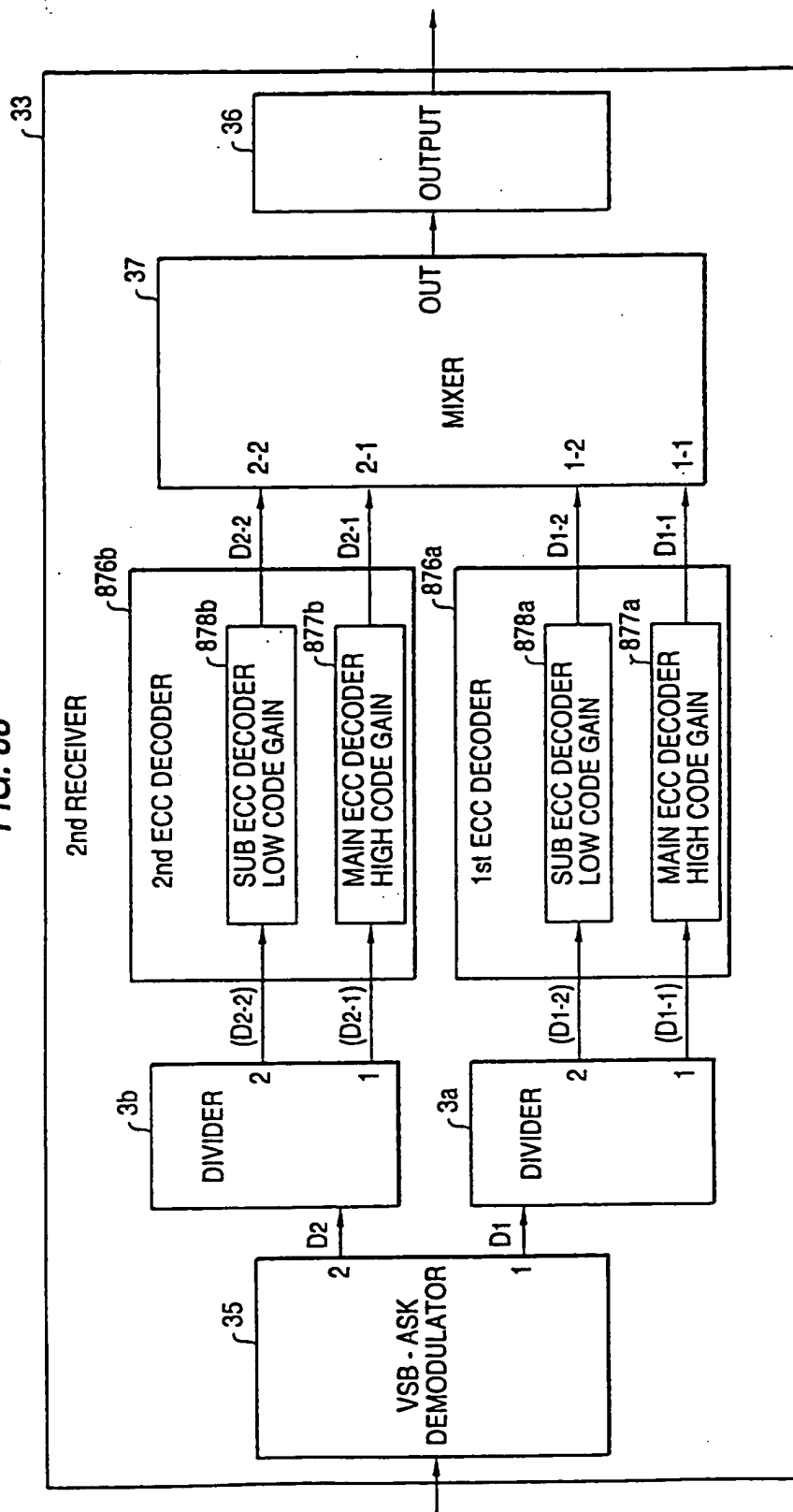


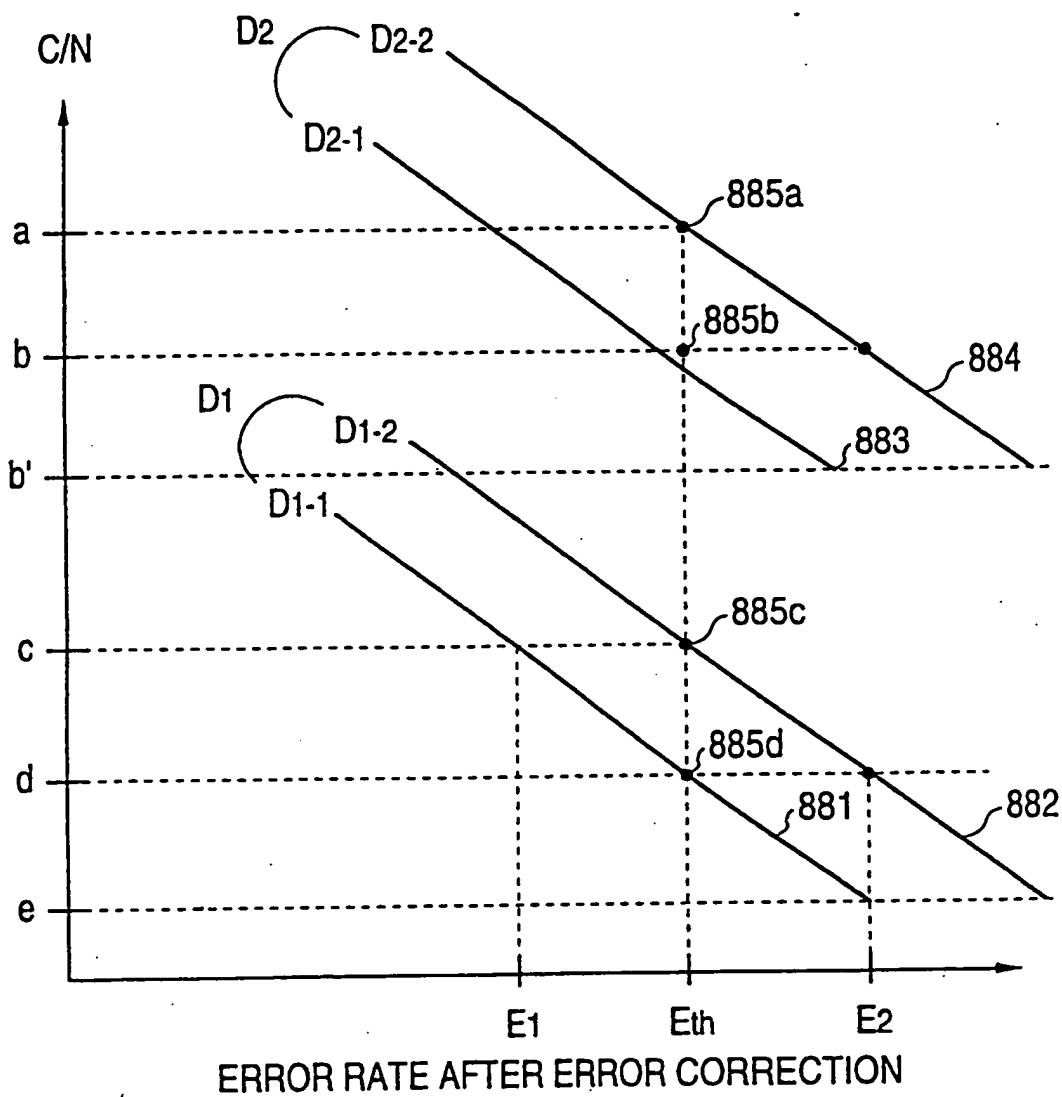
FIG. 89

FIG. 90

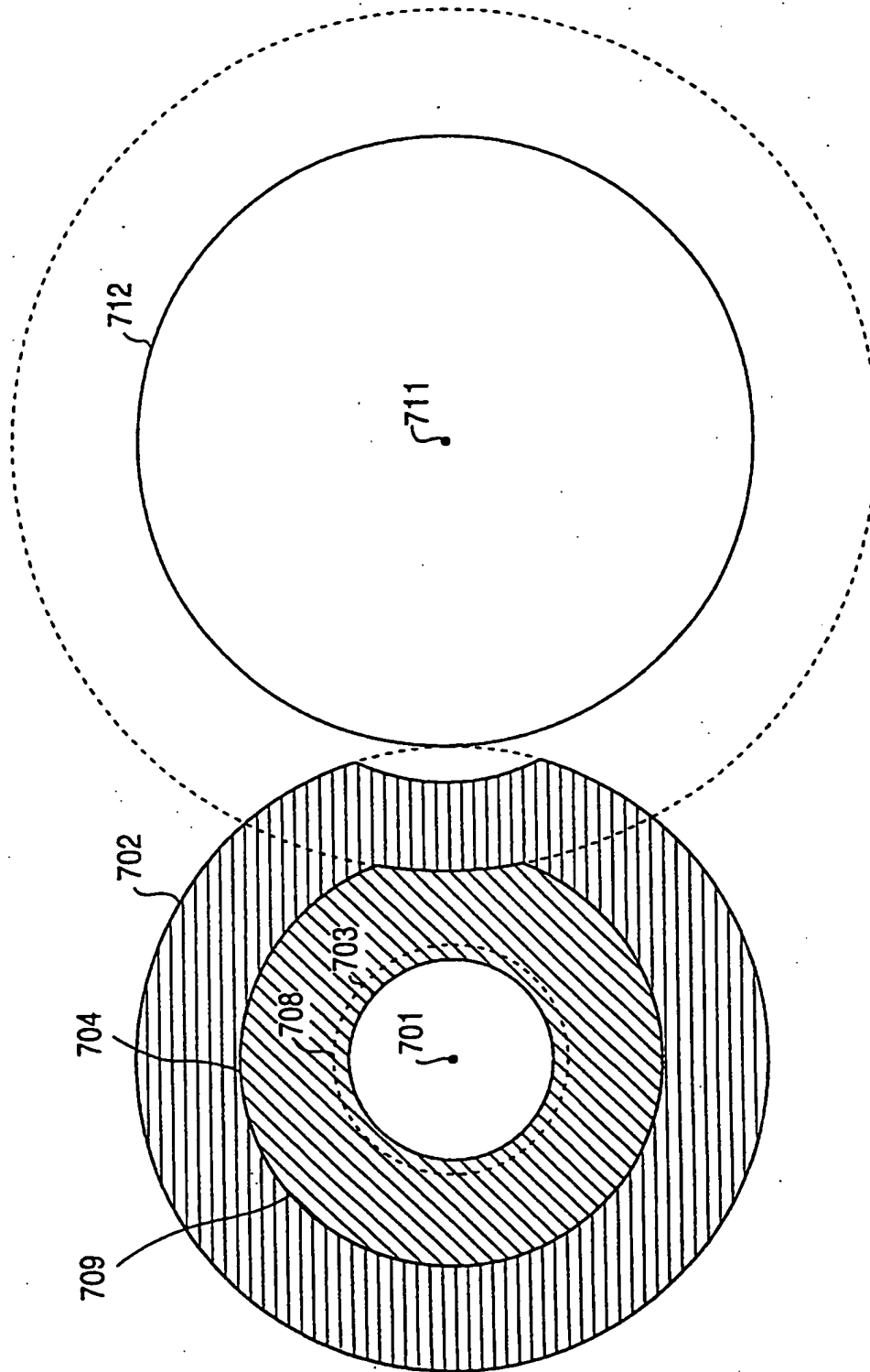


FIG. 91

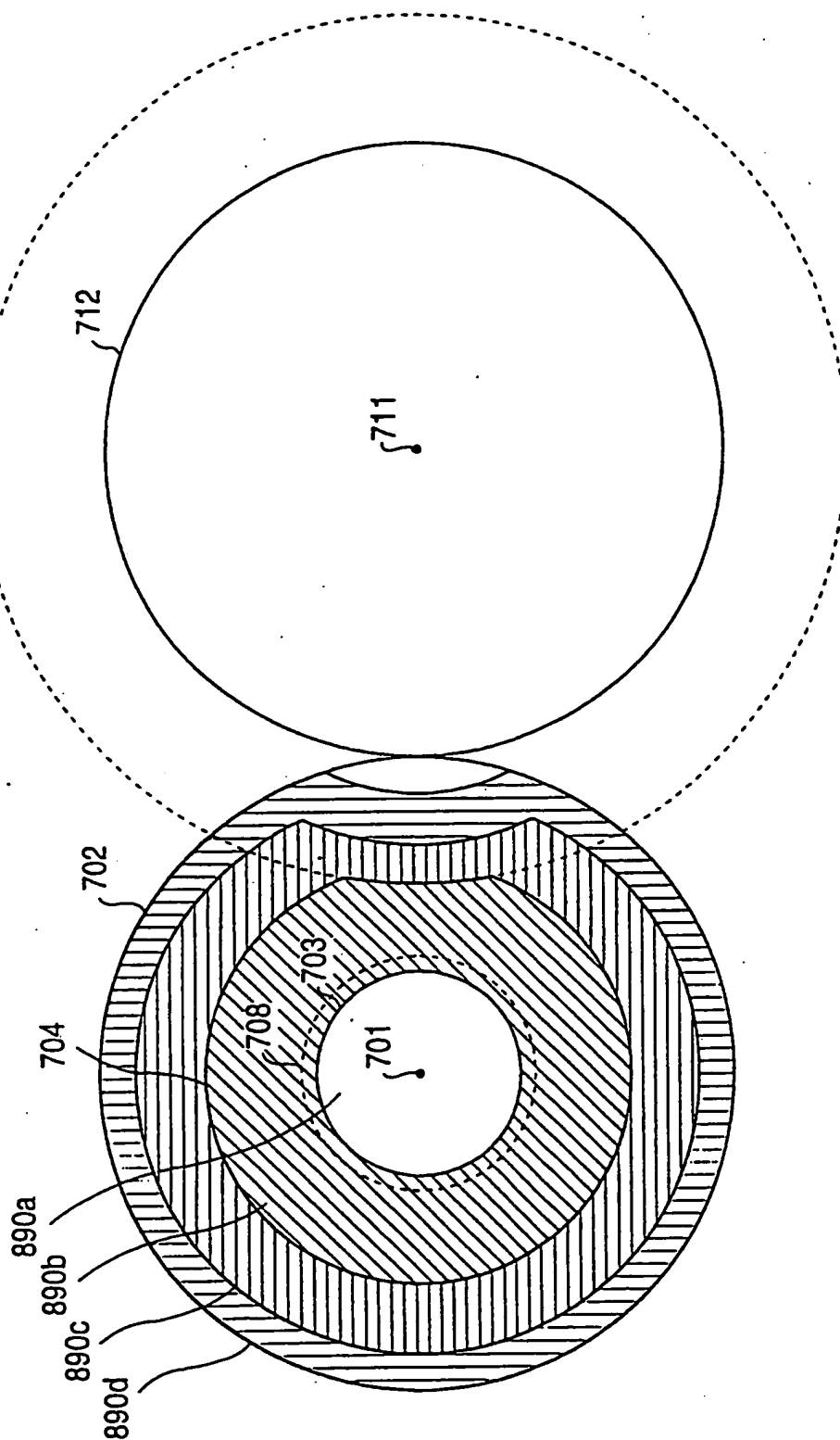


FIG. 92

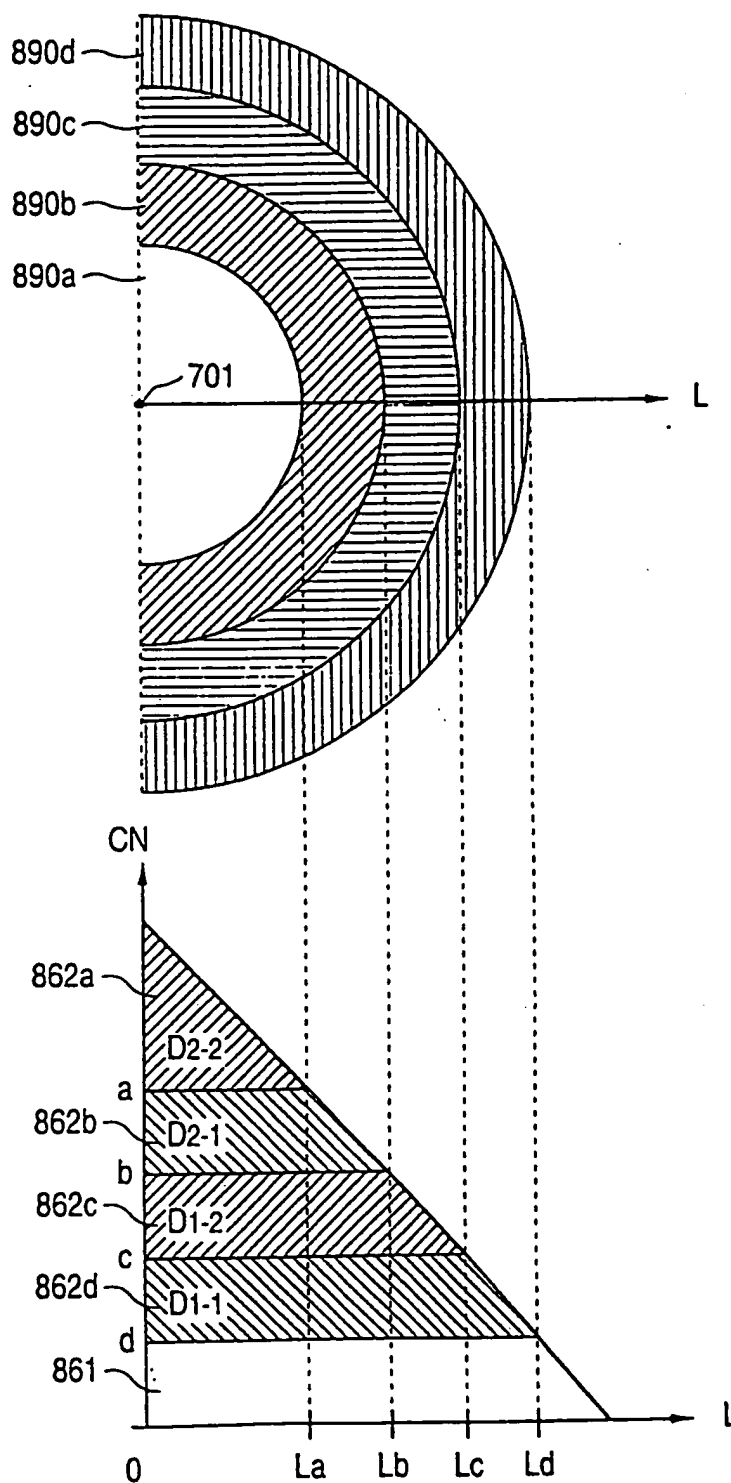


FIG. 93 (Amended)

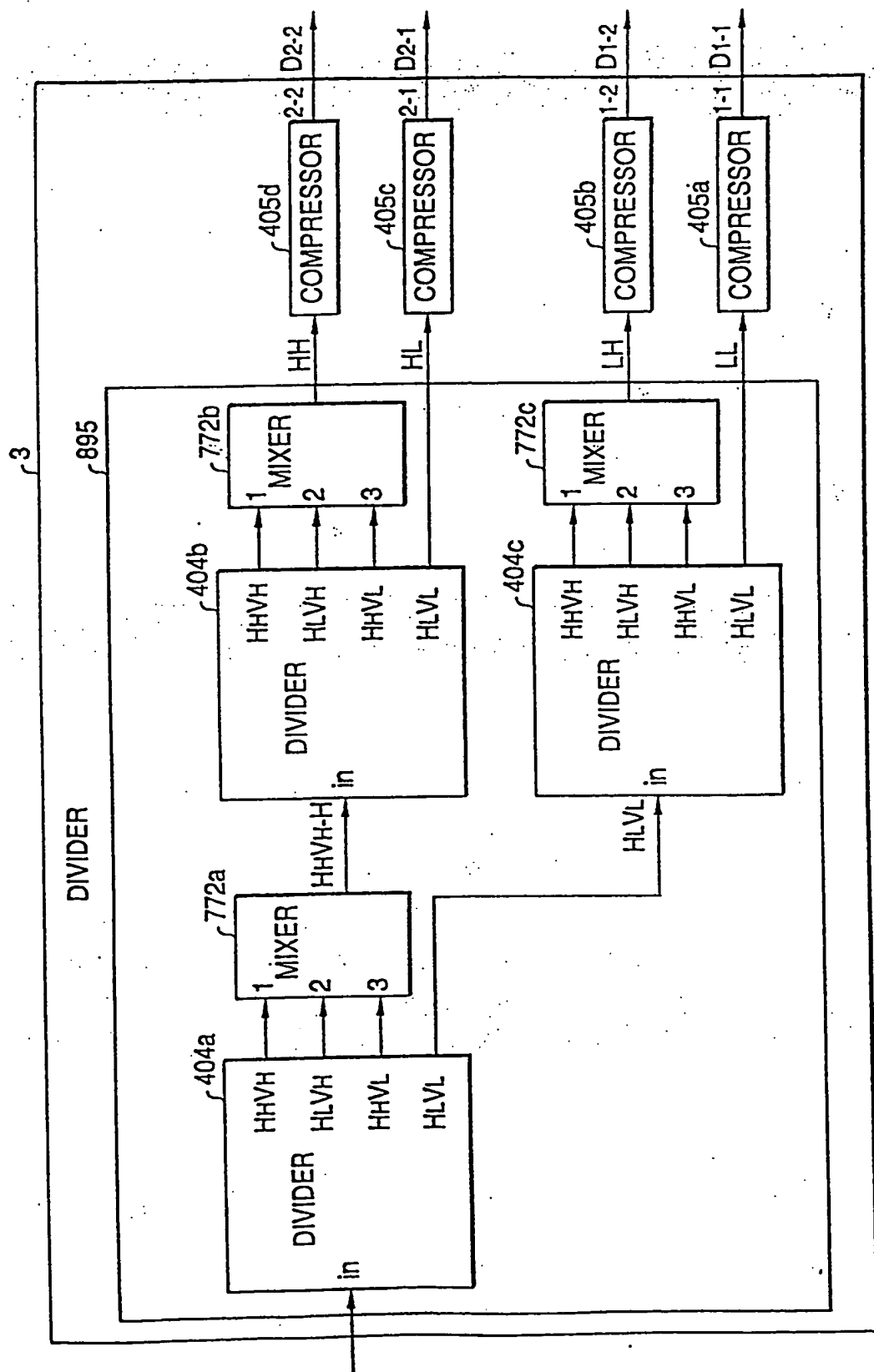


FIG. 94

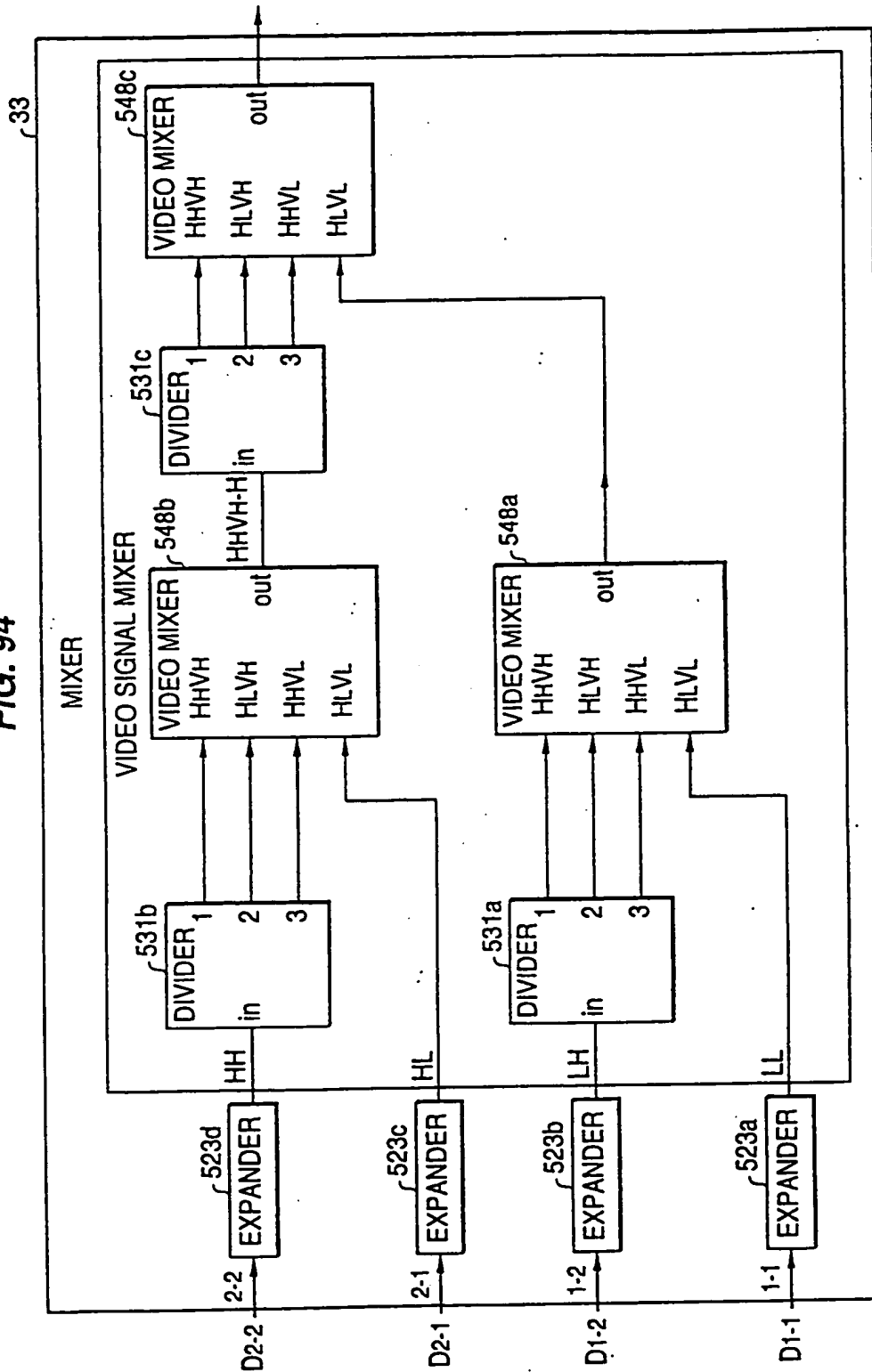


FIG. 95

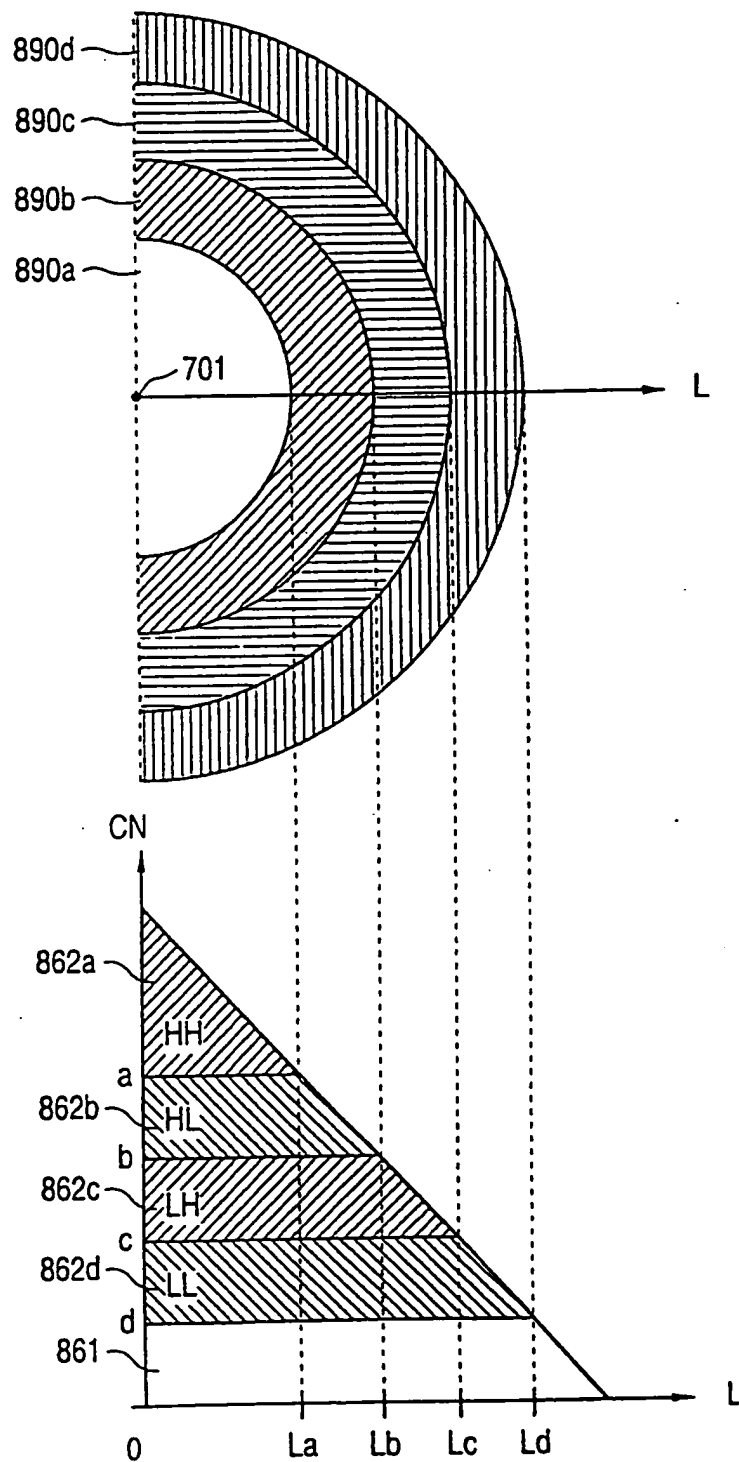


FIG. 96

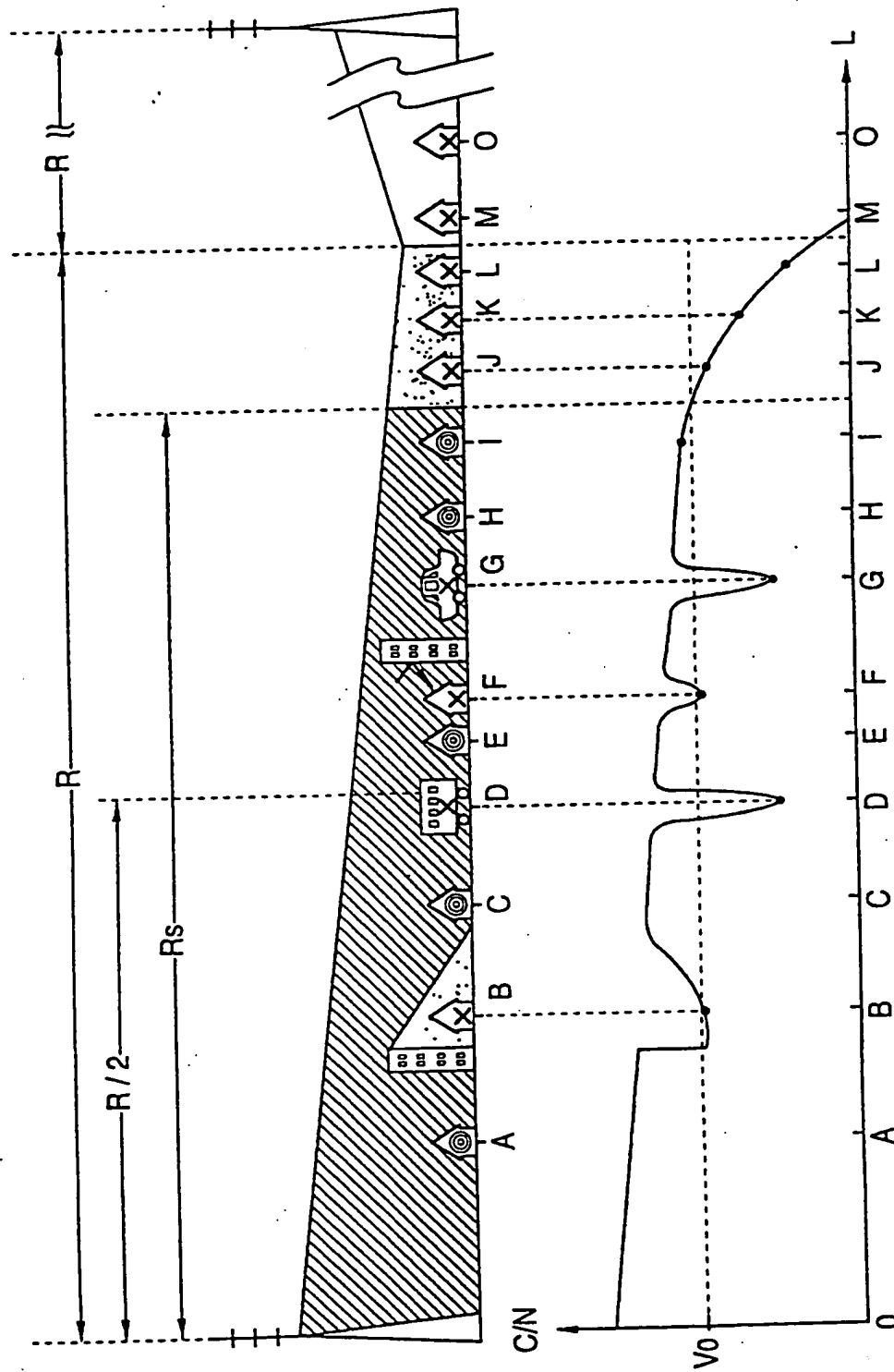


FIG. 97

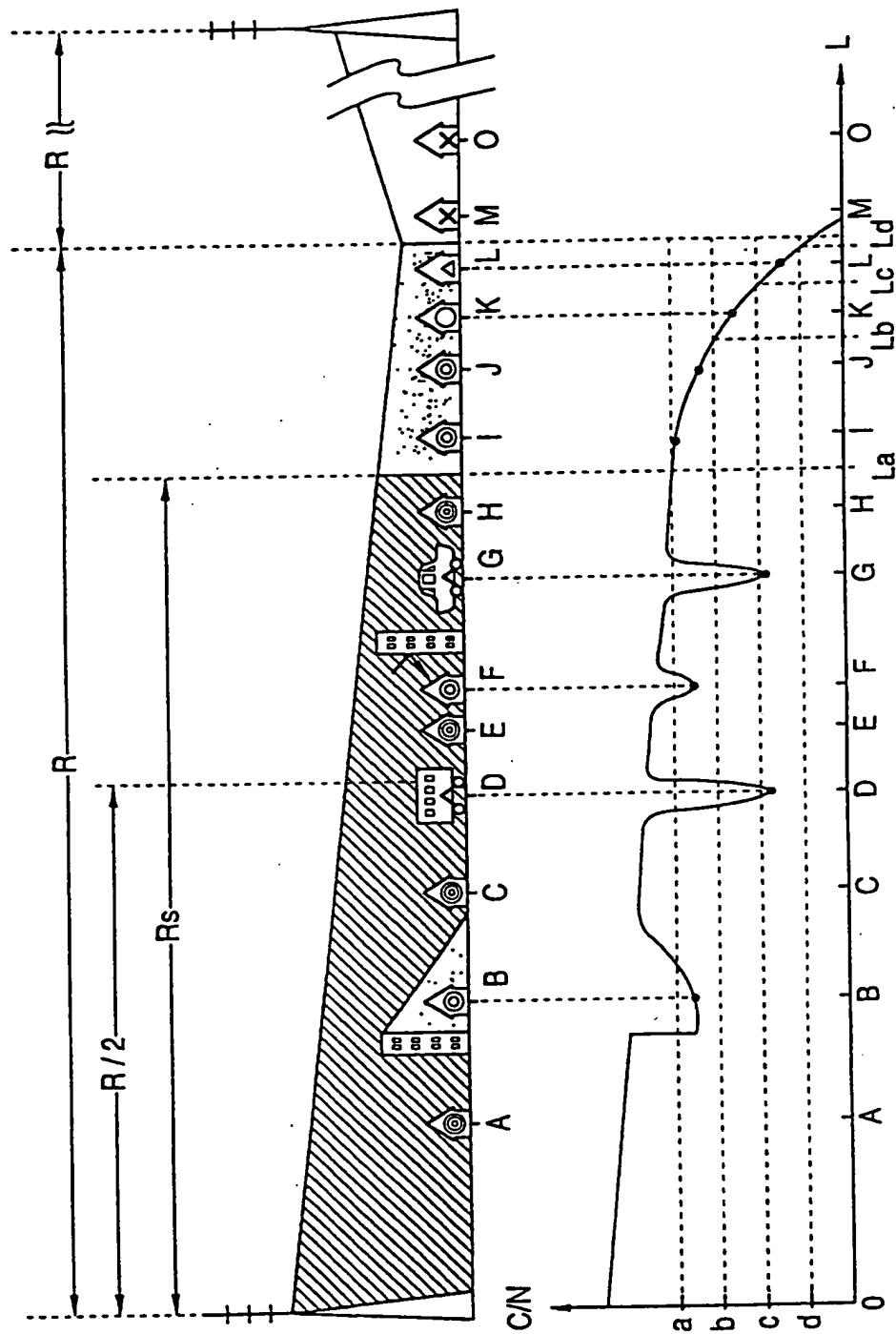


FIG. 98

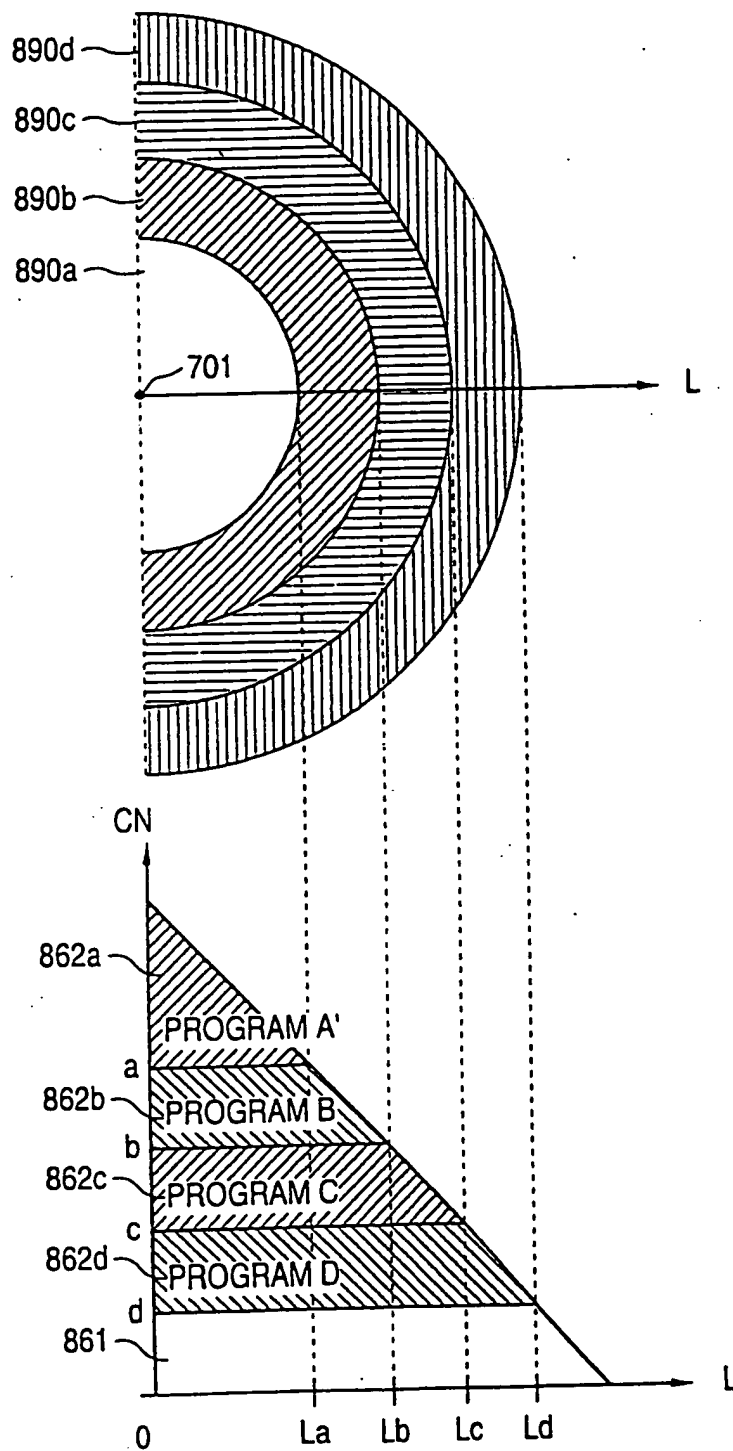


FIG. 99

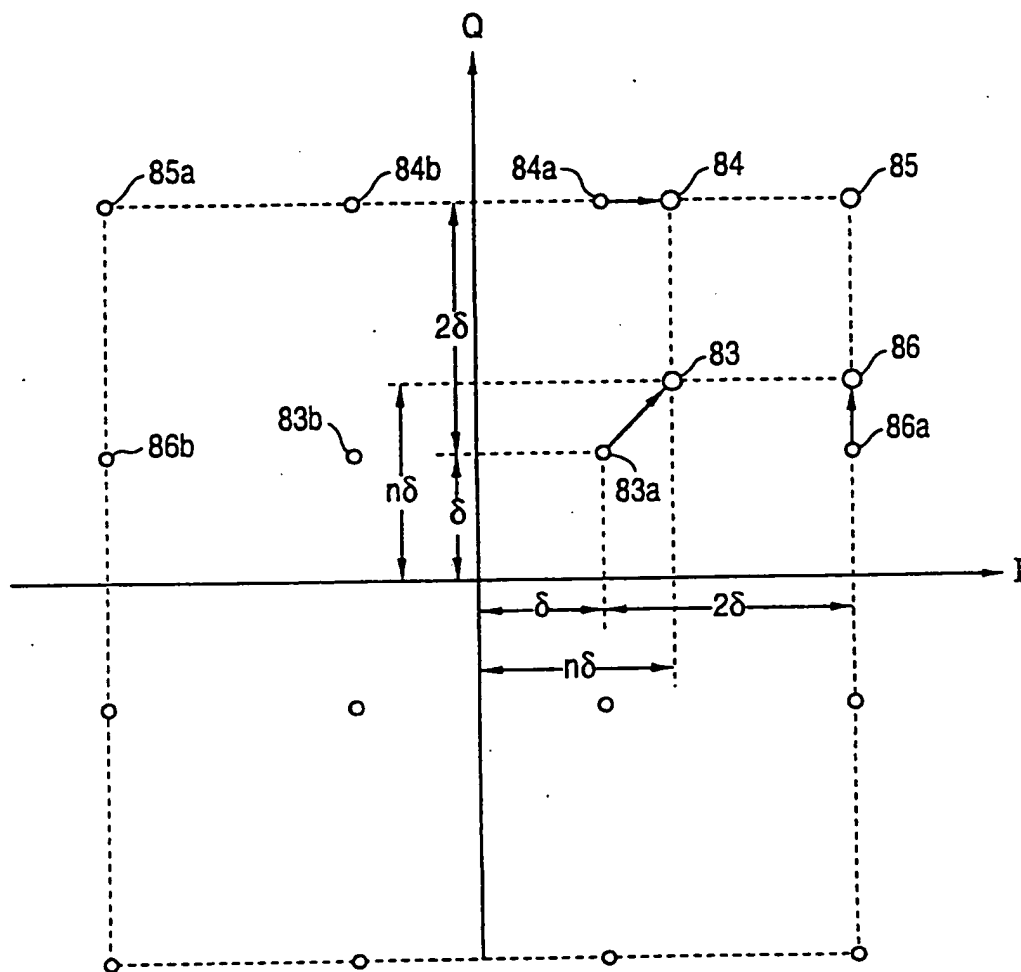
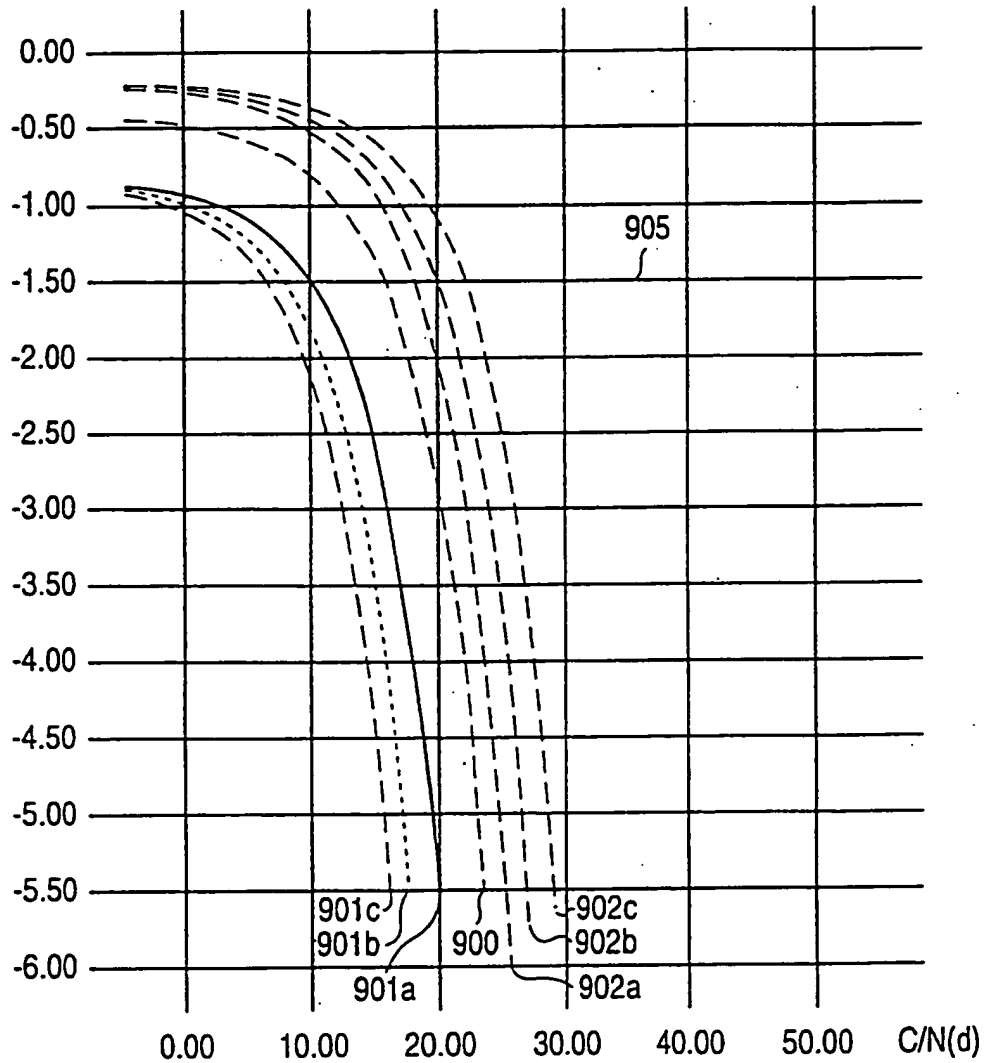


FIG. 101

Pe



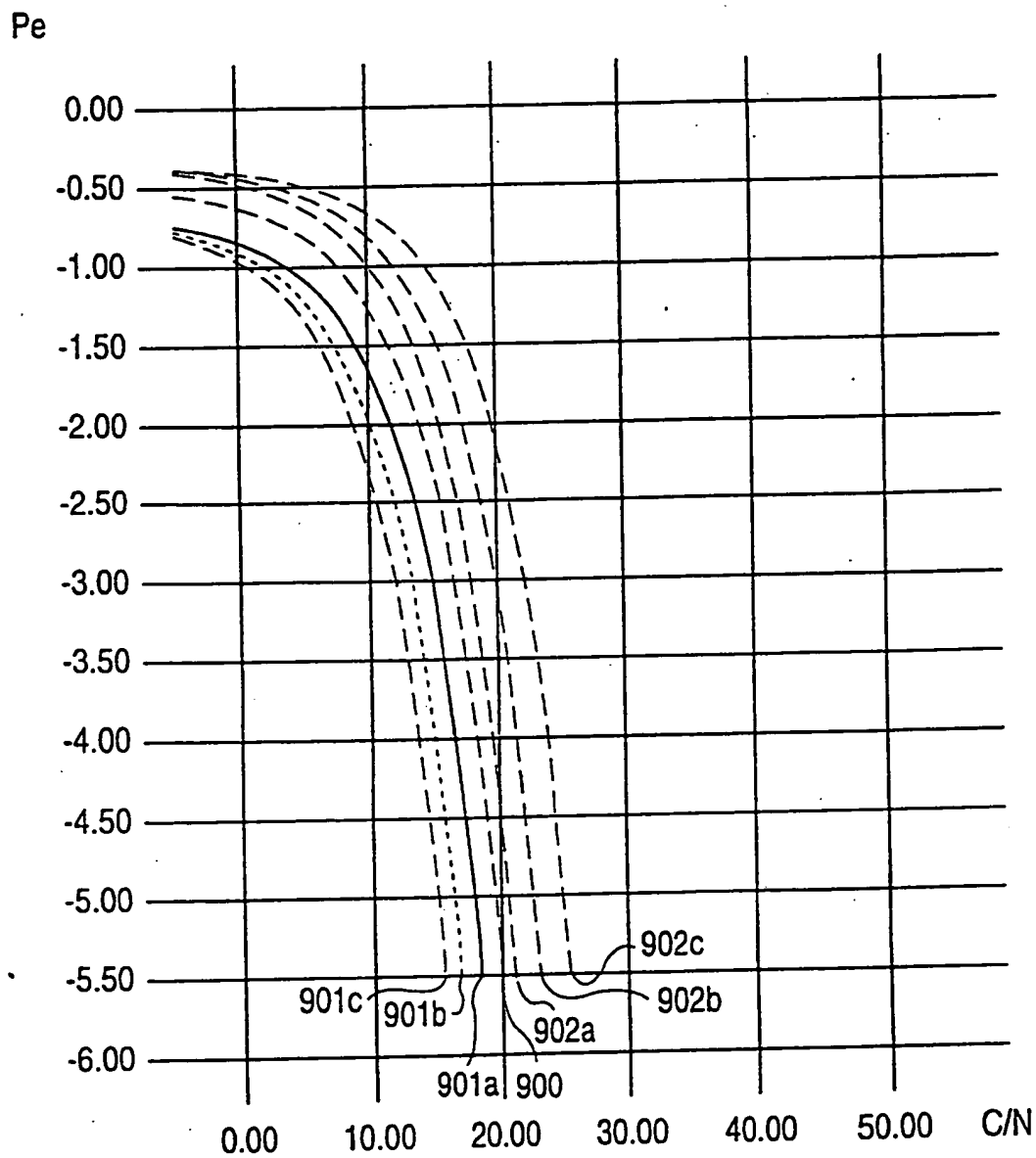


FIG. 103

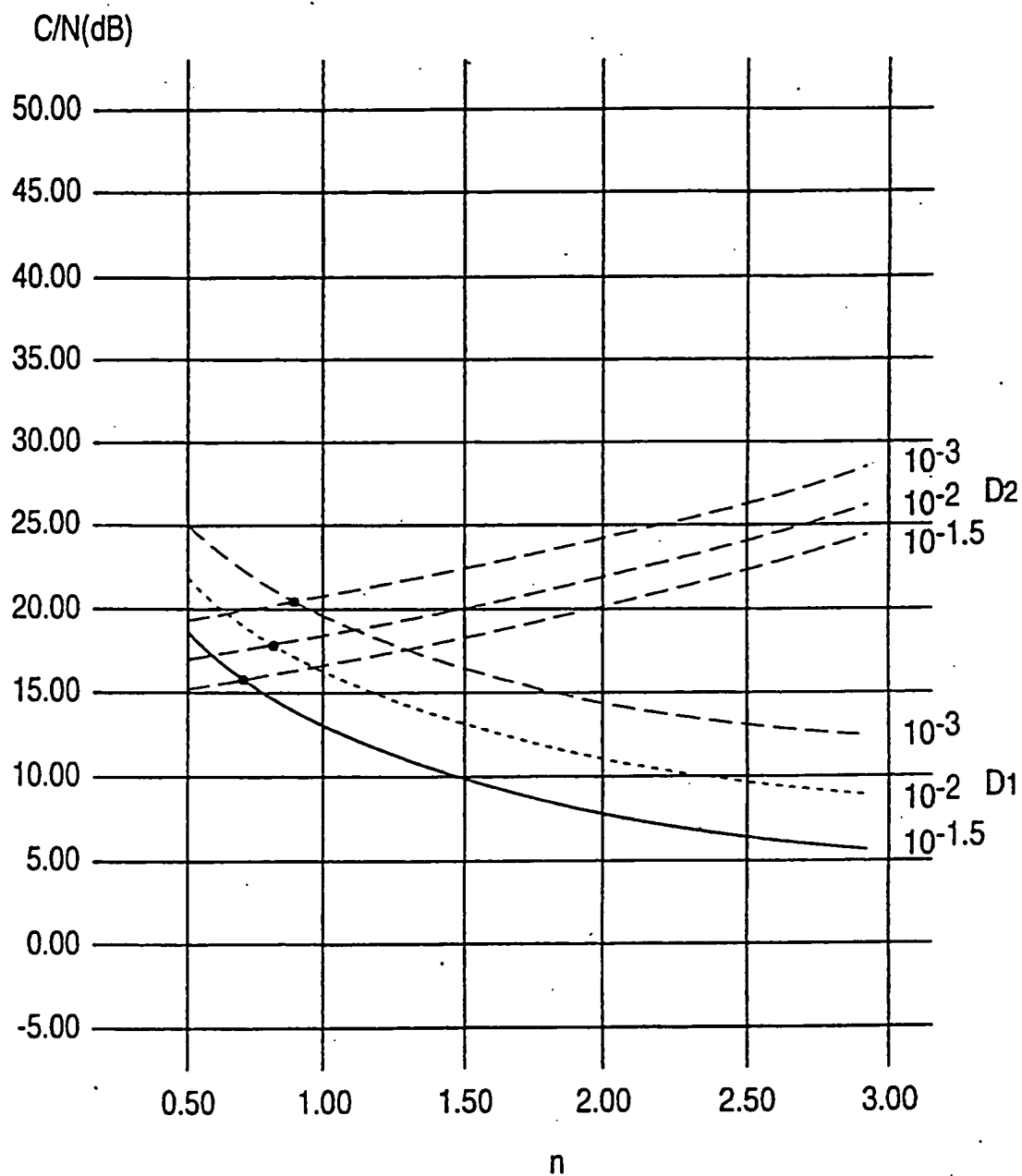


FIG. 104

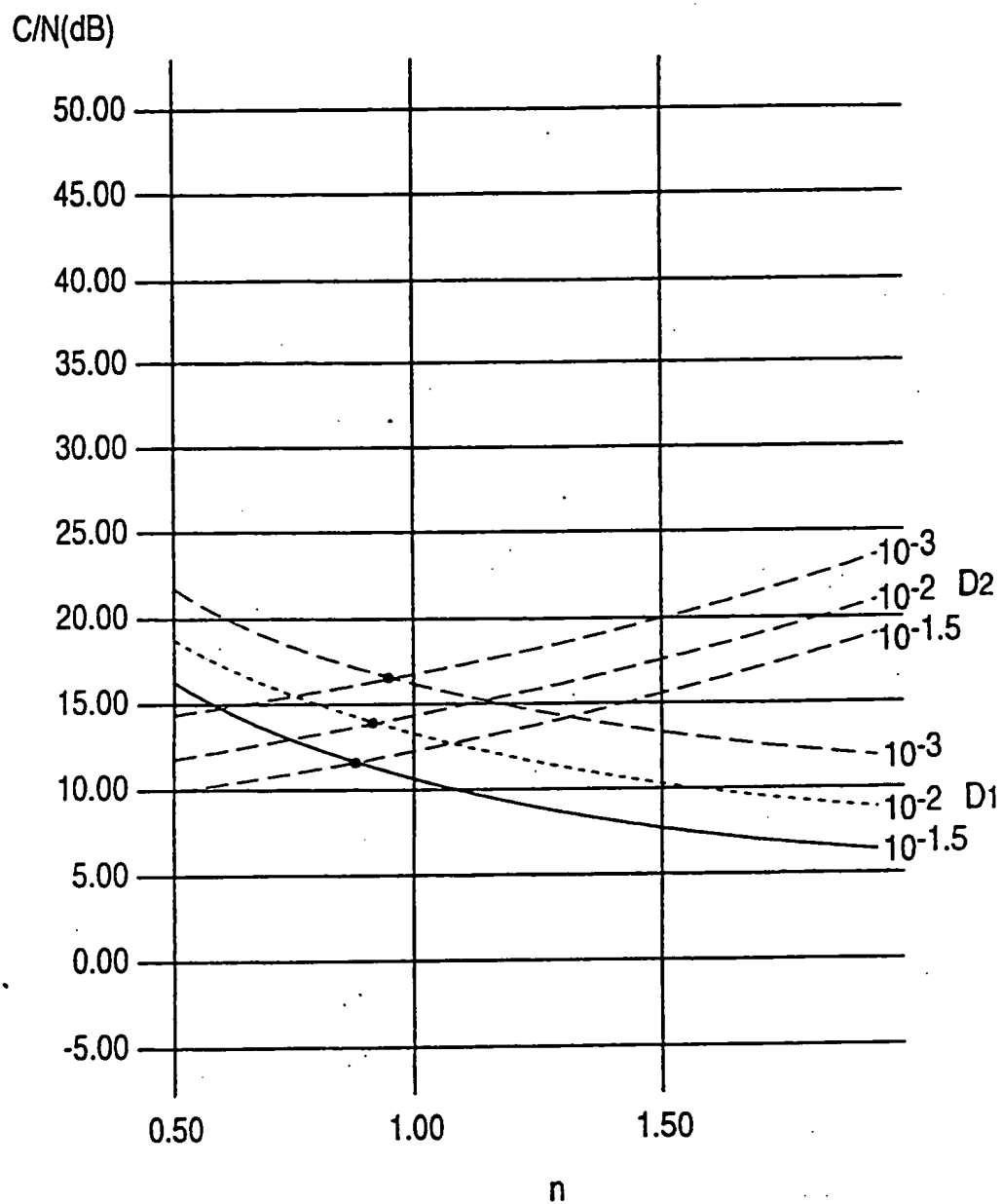


FIG. 105

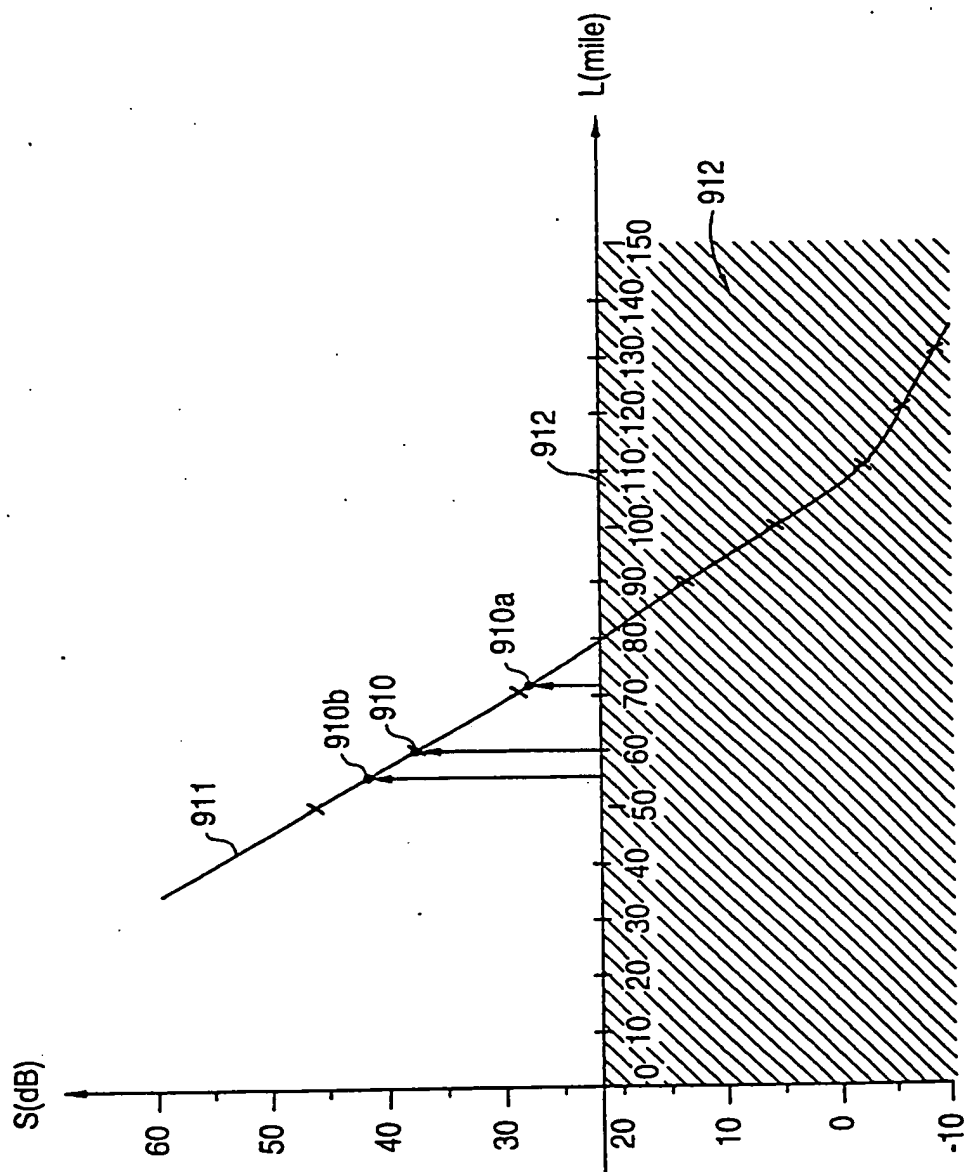


FIG. 106

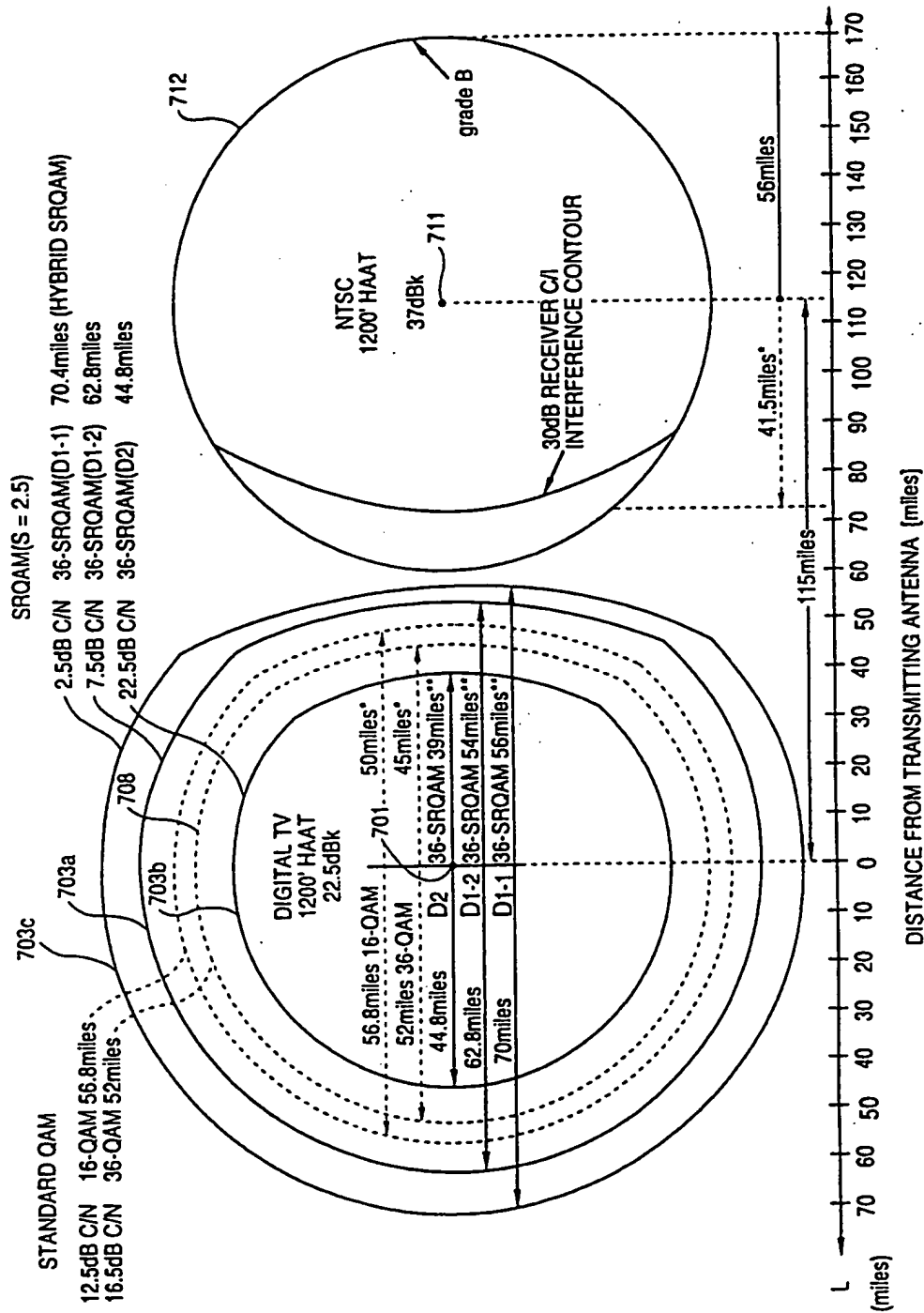


FIG. 107

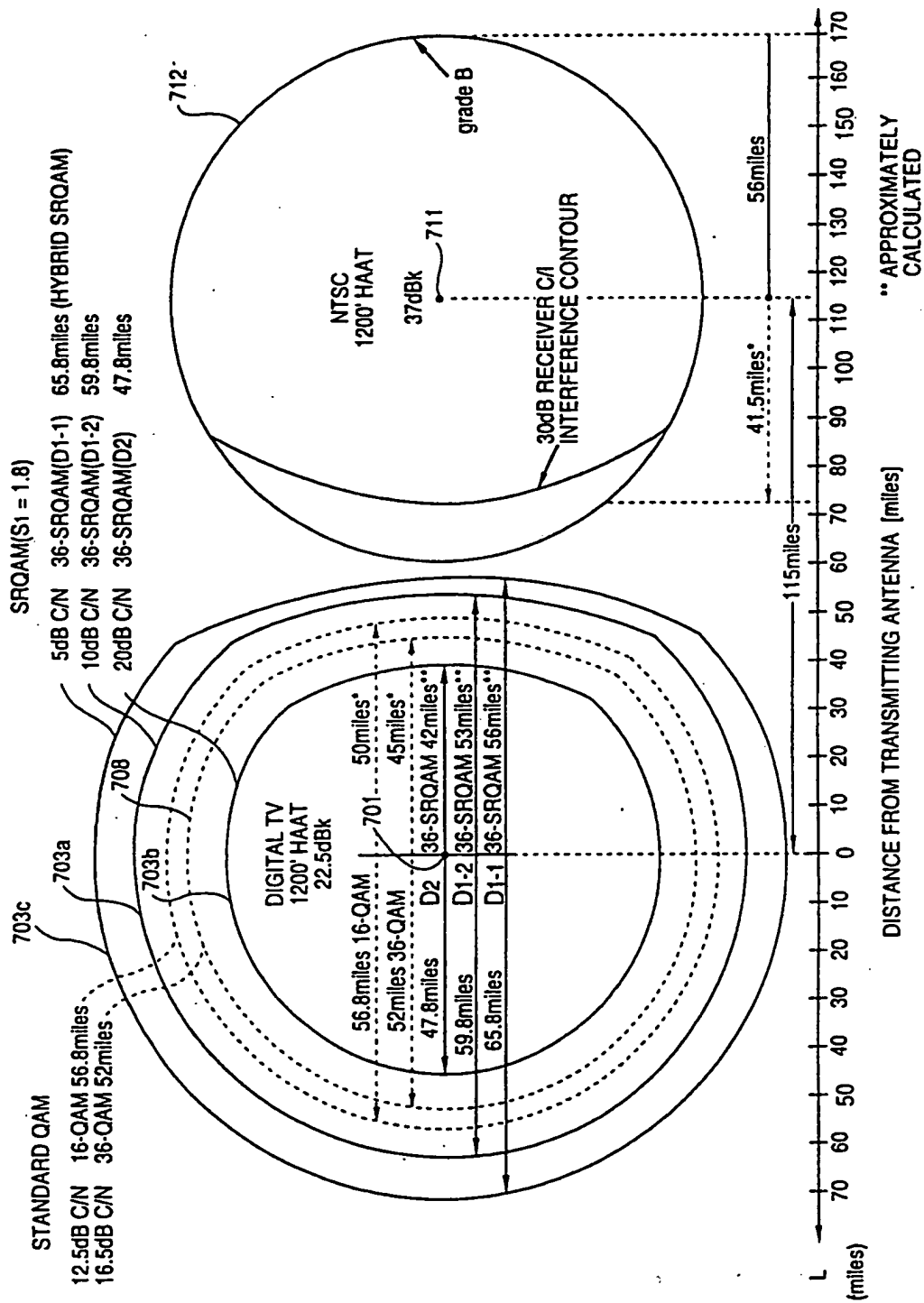


FIG. 108(b)

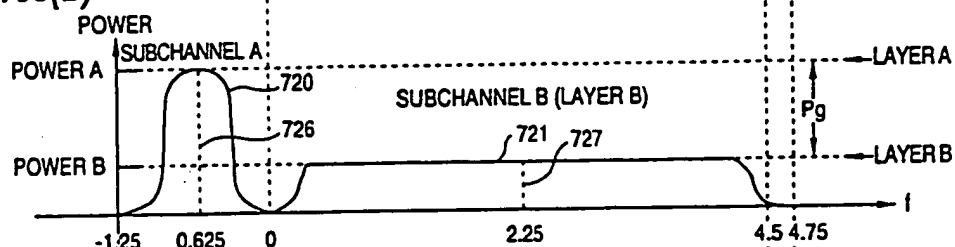


FIG. 1.08(c)

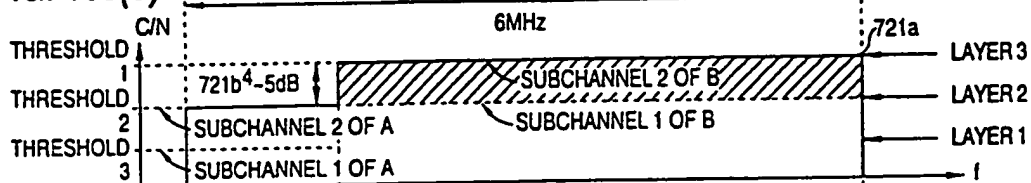


FIG. 108(d)

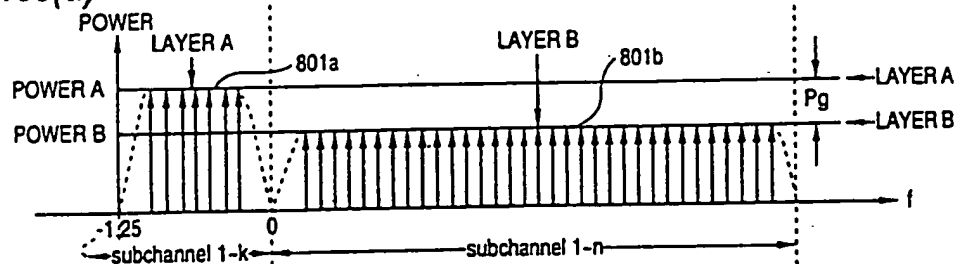


FIG. 108(e)

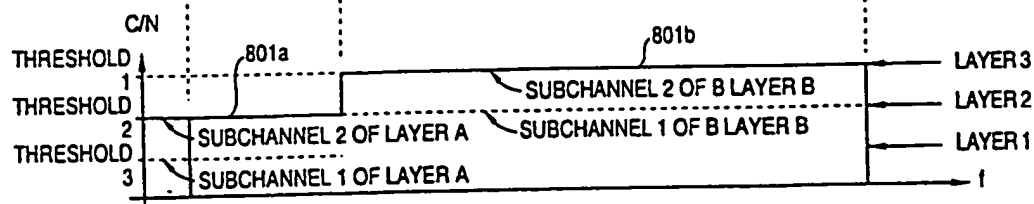


FIG. 109

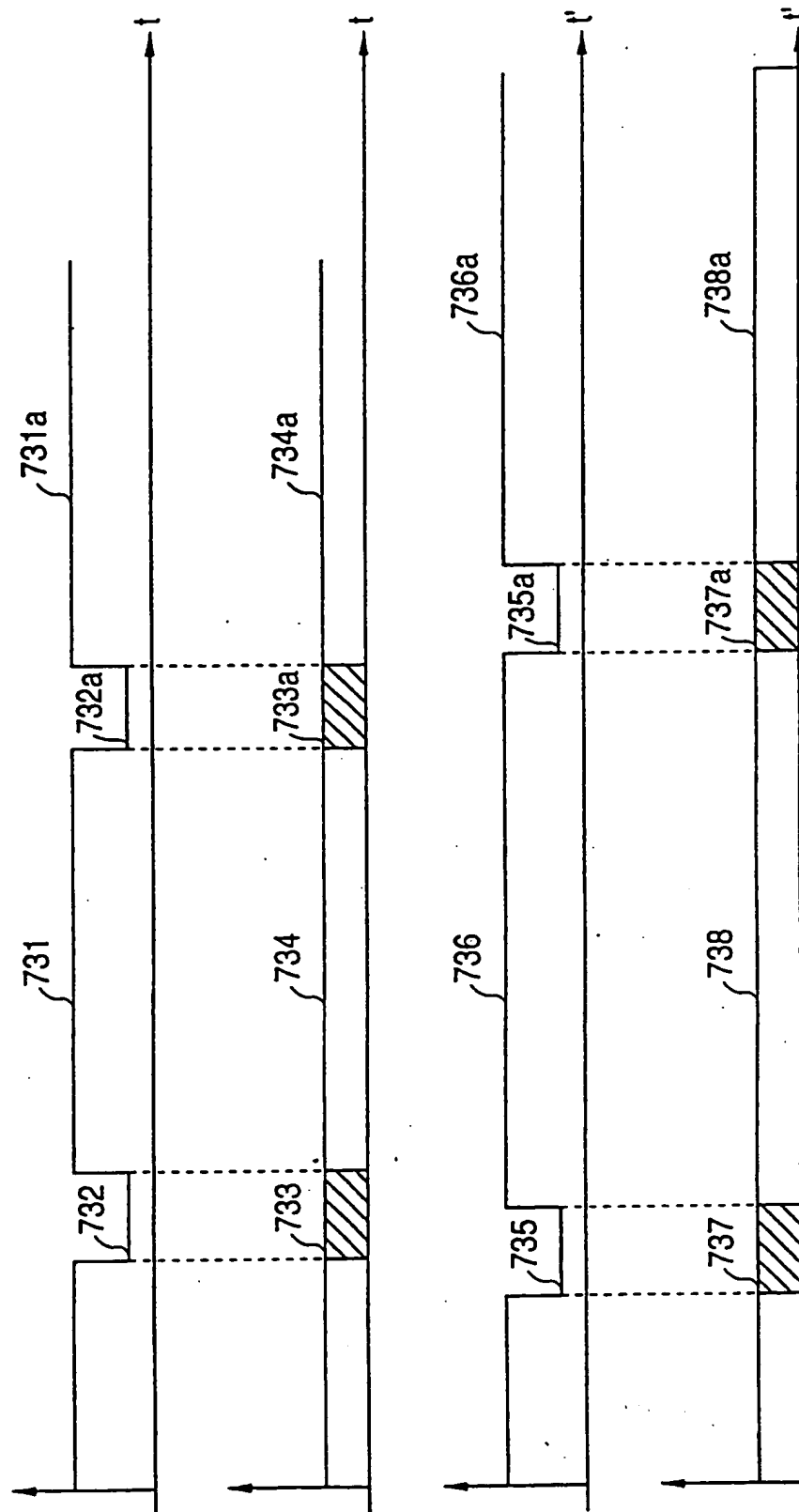


FIG. 110

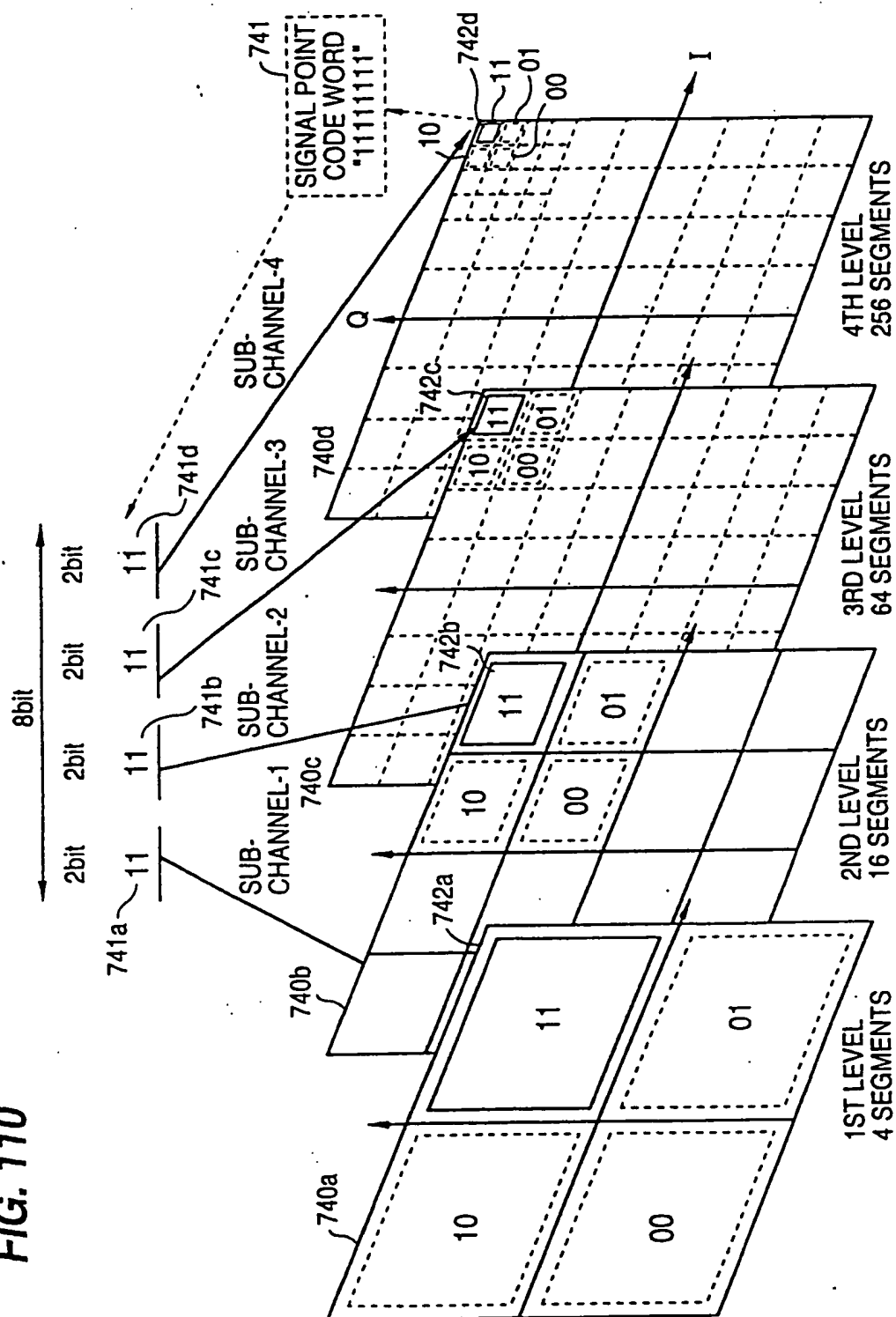
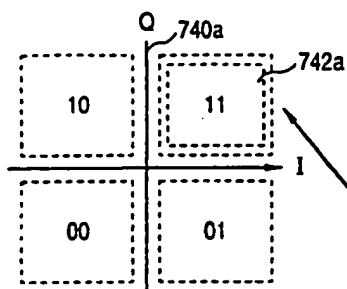


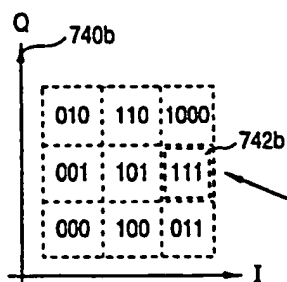
FIG. 111

SUBCHANNEL-1 (SRQAM:D1 = 2bit)



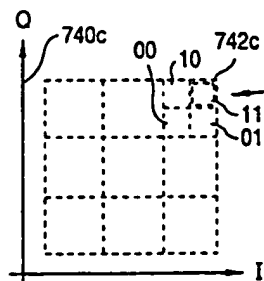
CODE WORD-1

SUBCHANNEL-2 (36-SRQAM:D2 = 3bit + 1/8bit)



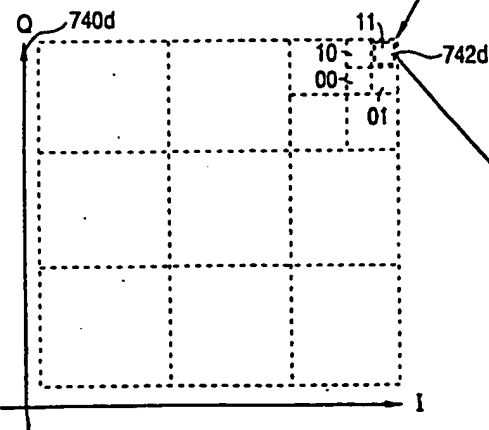
CODE WORD-2

SUBCHANNEL-3 (144-SRQAM:D3 = 2bit)



CODE WORD-3

SUBCHANNEL-4 (576-SRQAM:D4 = 2bit)



CODE WORD-4

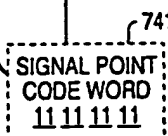
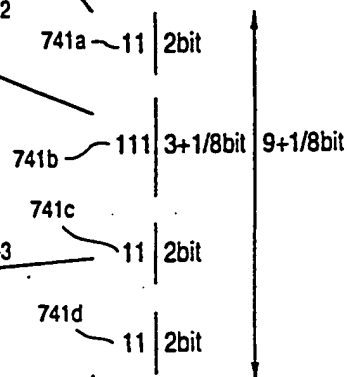
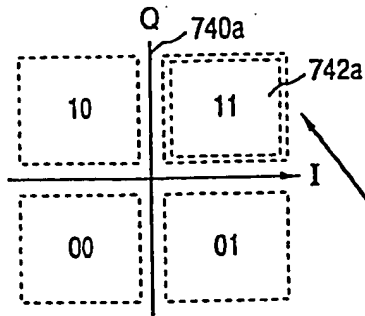
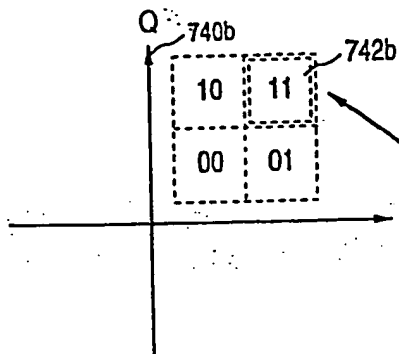


FIG. 112 (Amended)

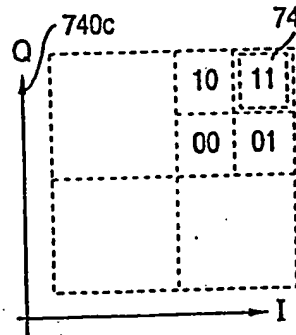
SUBCHANNEL-1 (SRQAM:D1 = 2bit)



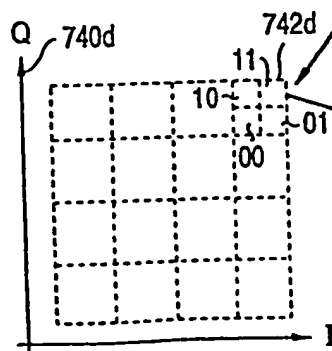
SUBCHANNEL-2 (16-SRQAM:D2 = 2bit)



SUBCHANNEL-3 (64-SRQAM:D3 = 2bit)



SUBCHANNEL-4 (256-SRQAM:D4 = 2bit)

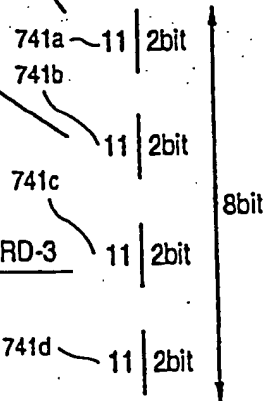


CODE WORD-1

CODE WORD-2

CODE WORD-3

CODE WORD-4



SIGNAL POINT
CODE WORD
11 11 11 11

FIG. 113

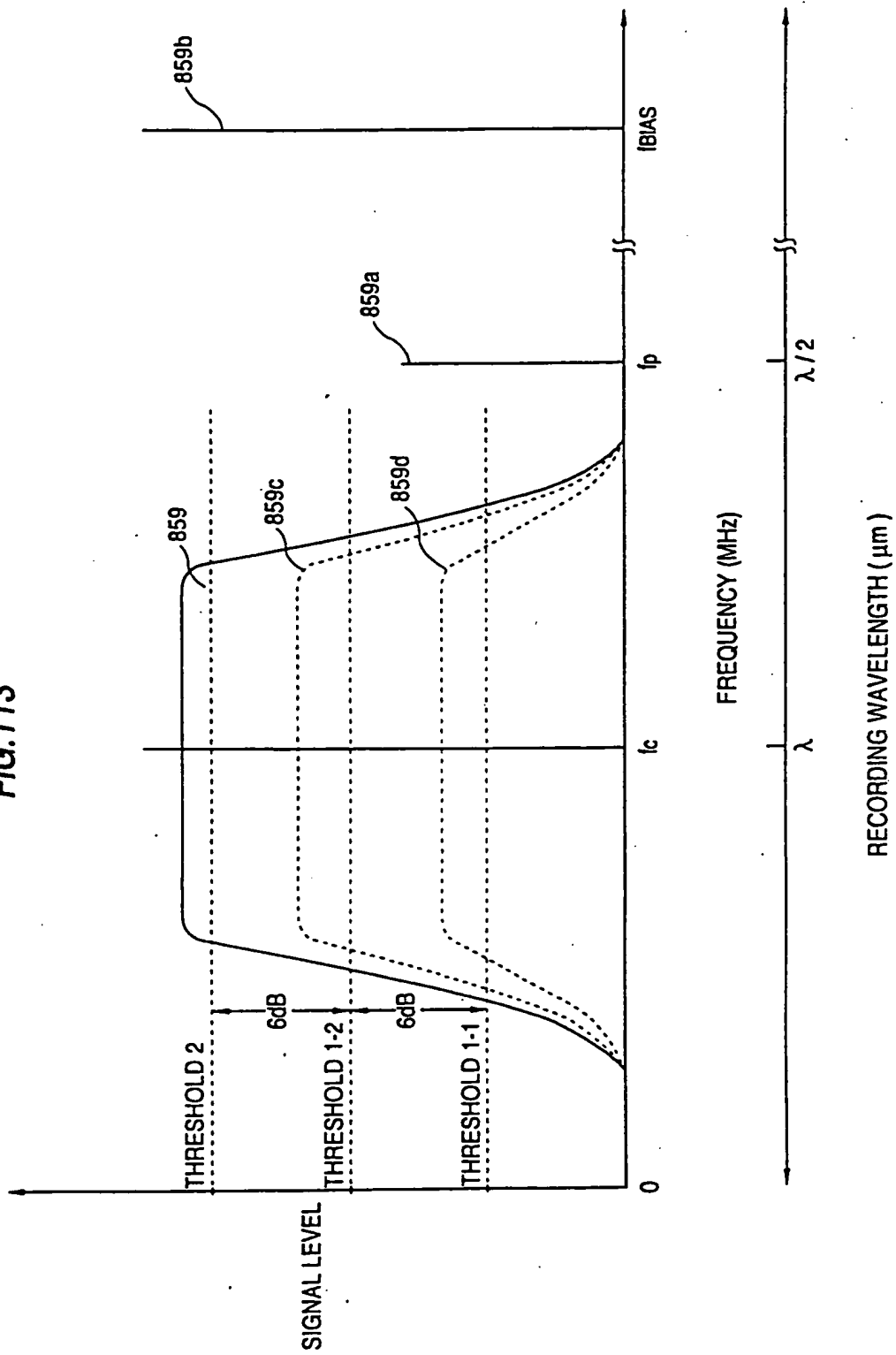


FIG. 114

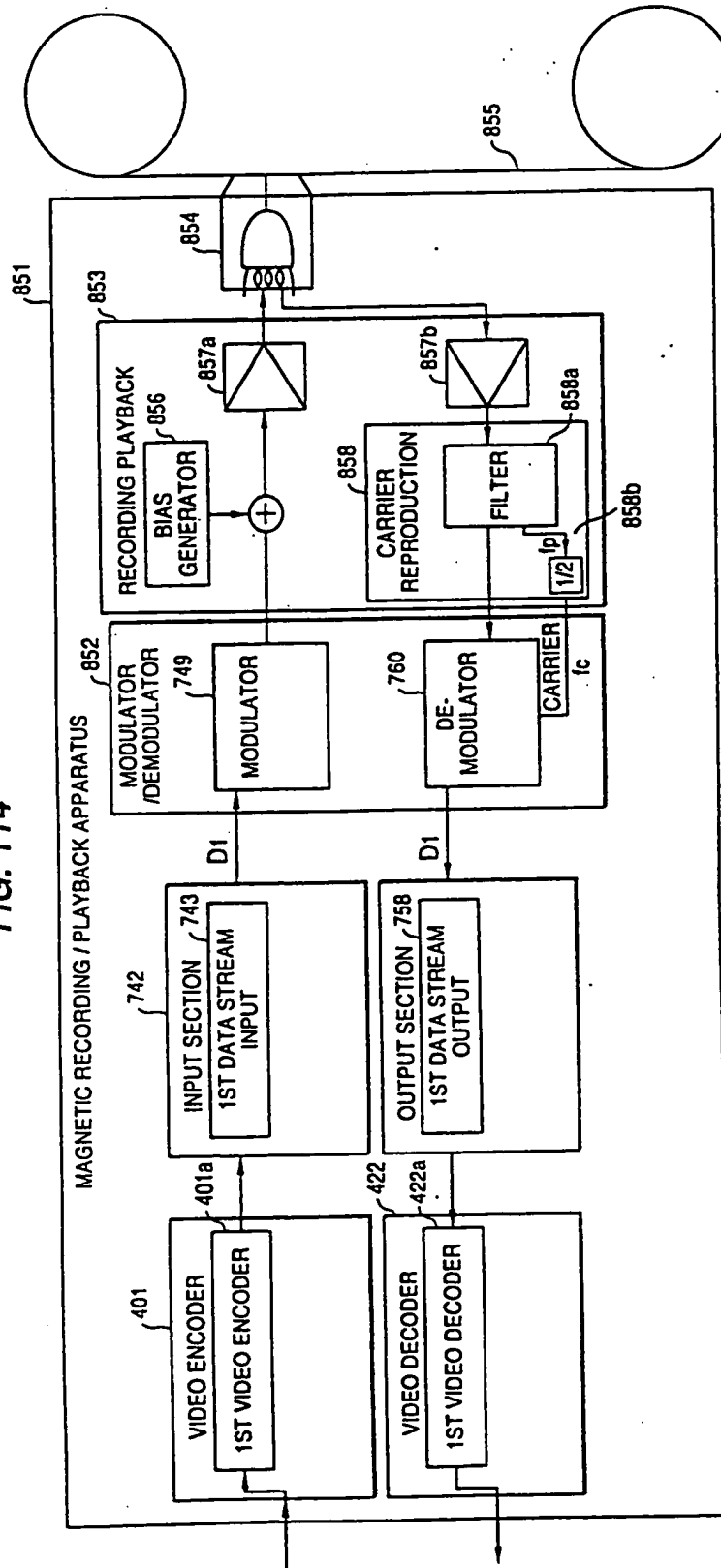


FIG. 115

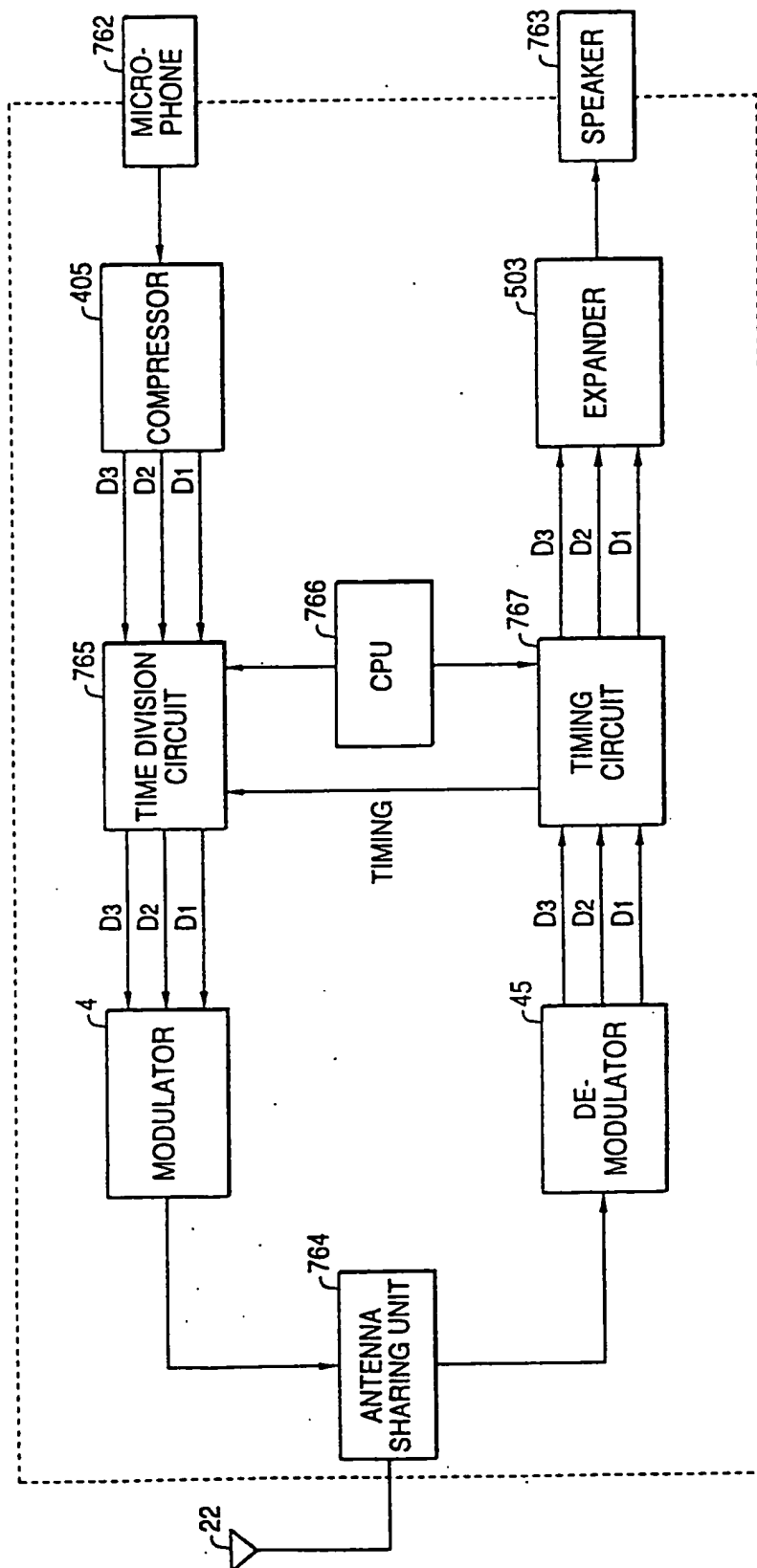


FIG. 116

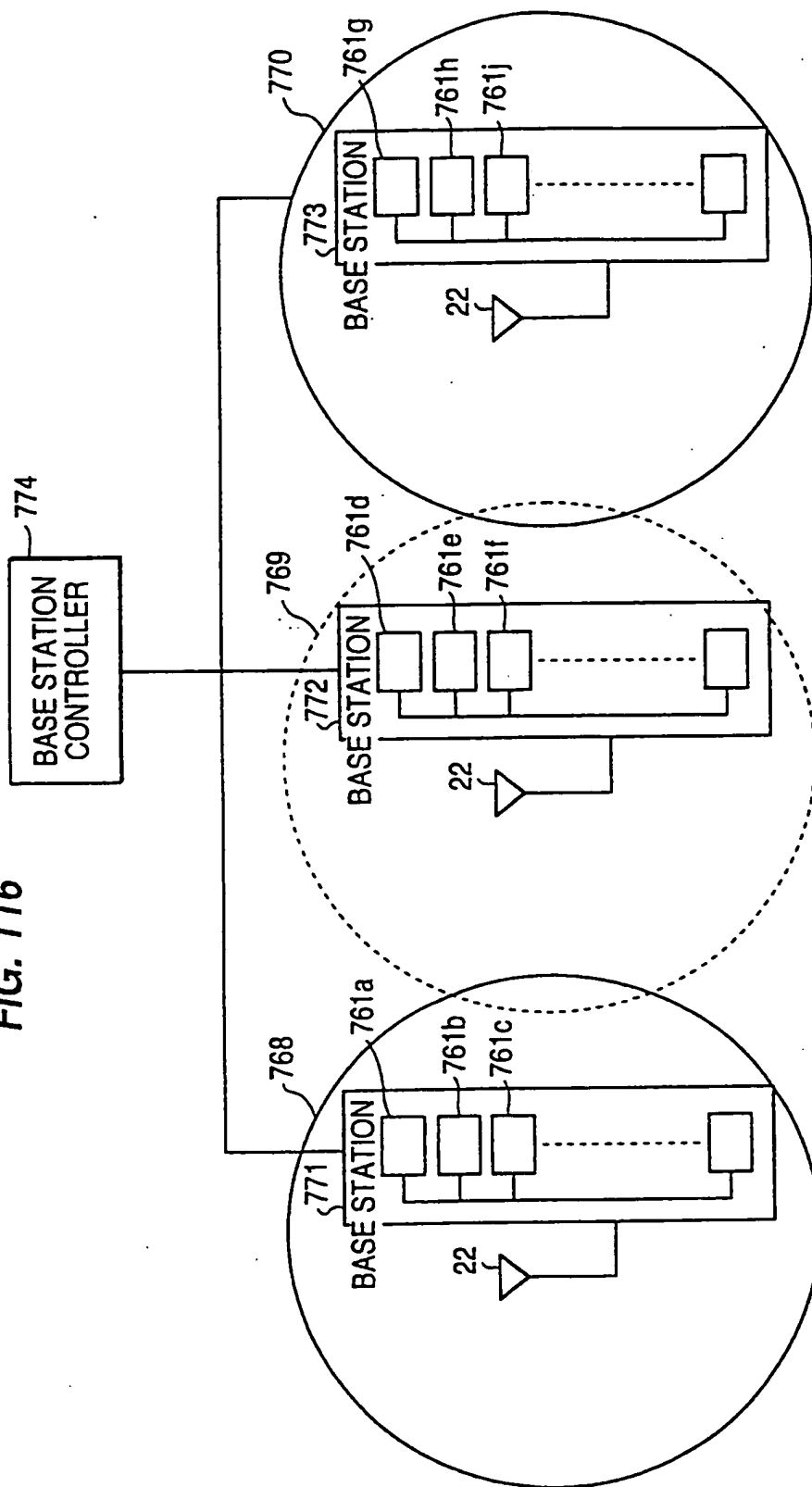


FIG. 117

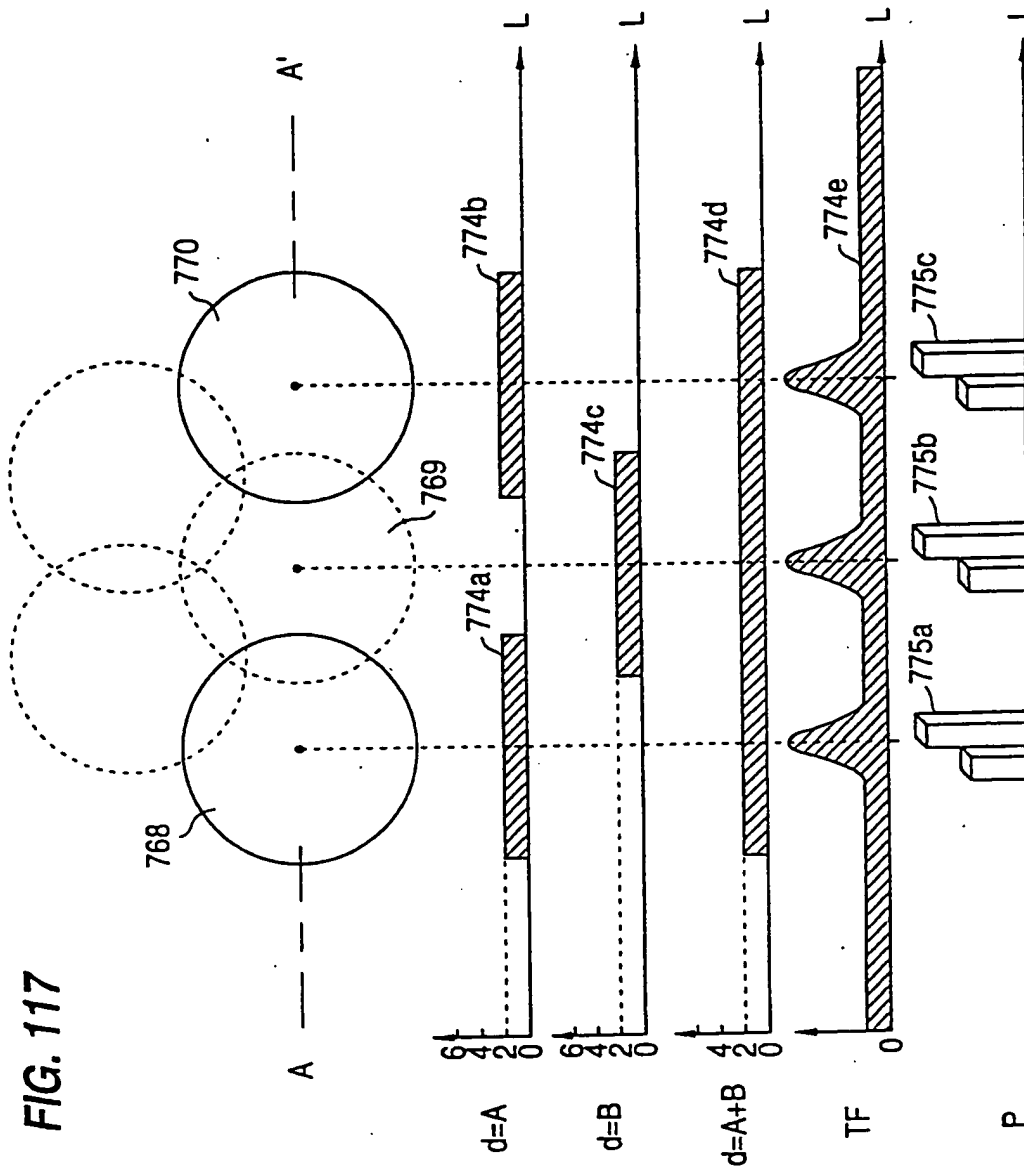


FIG. 118

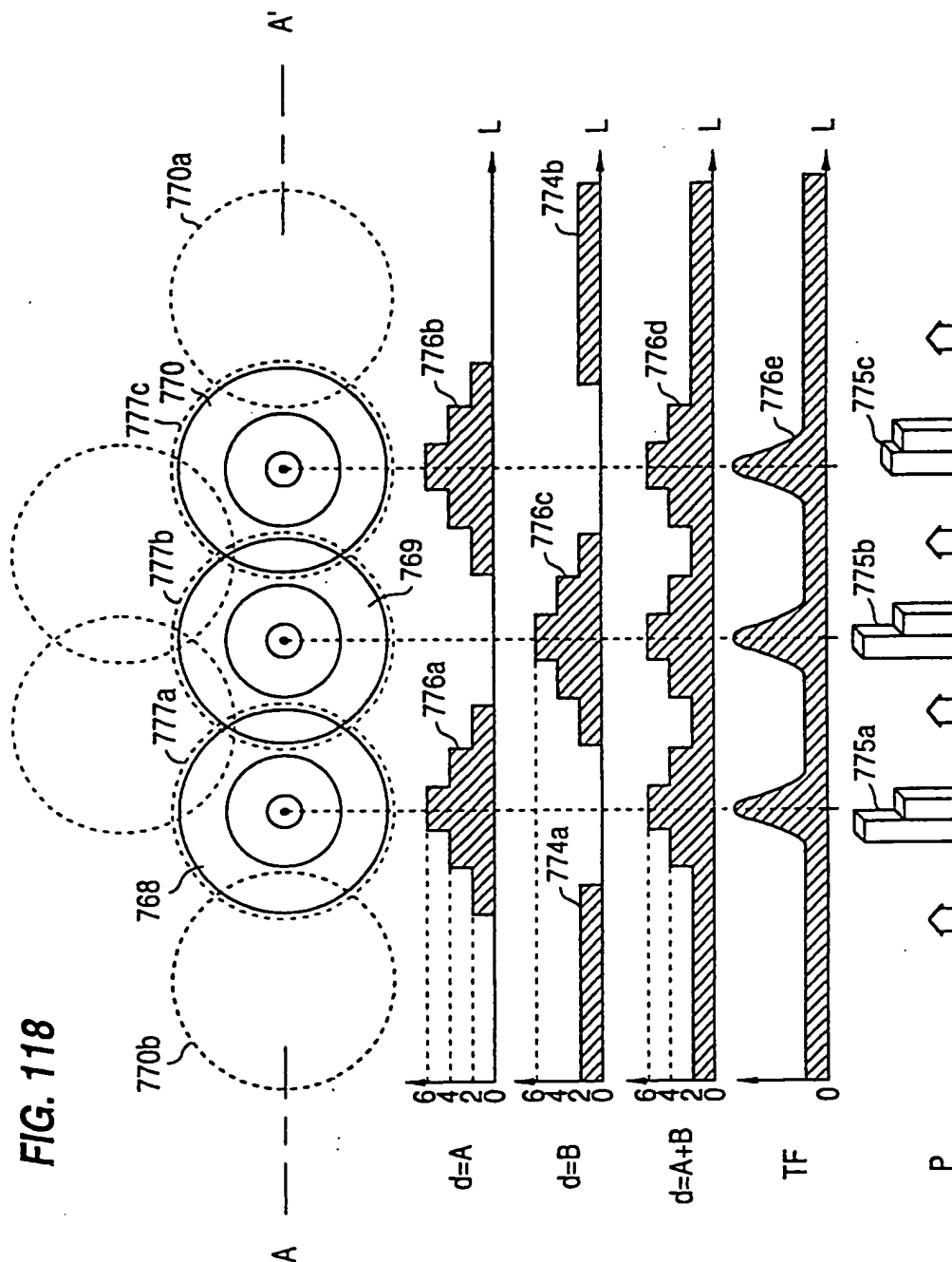


FIG. 119(a)

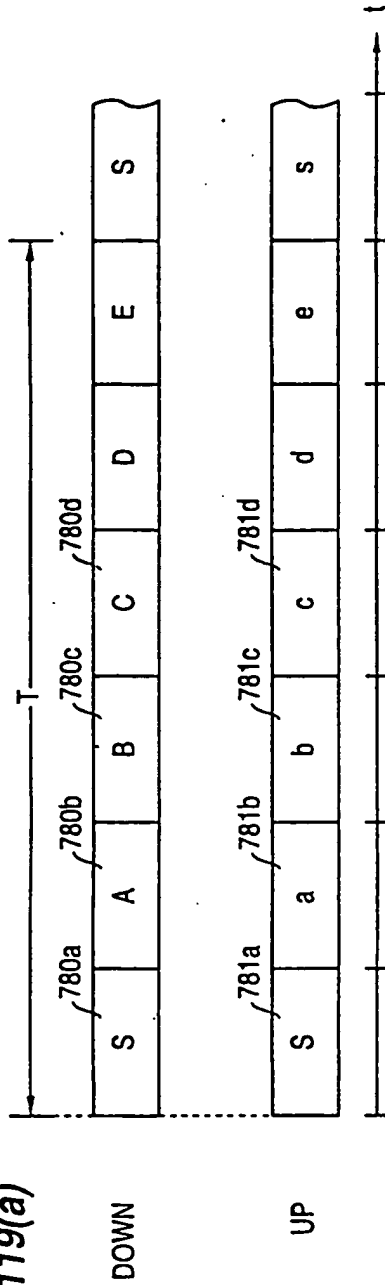


FIG. 119(b)

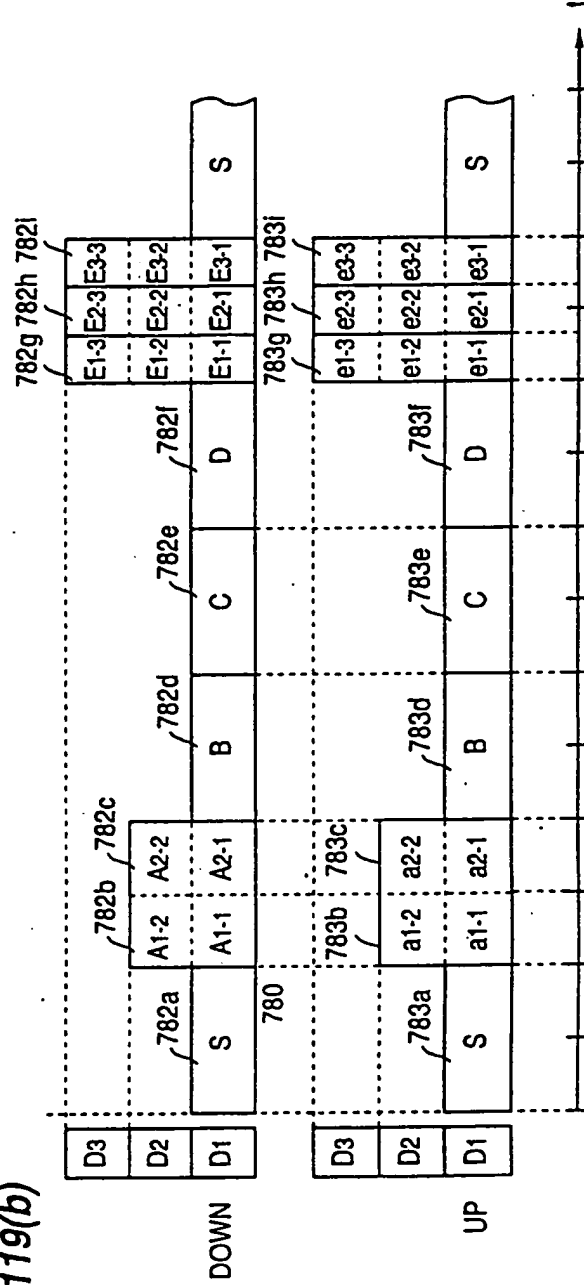


FIG. 120(a)

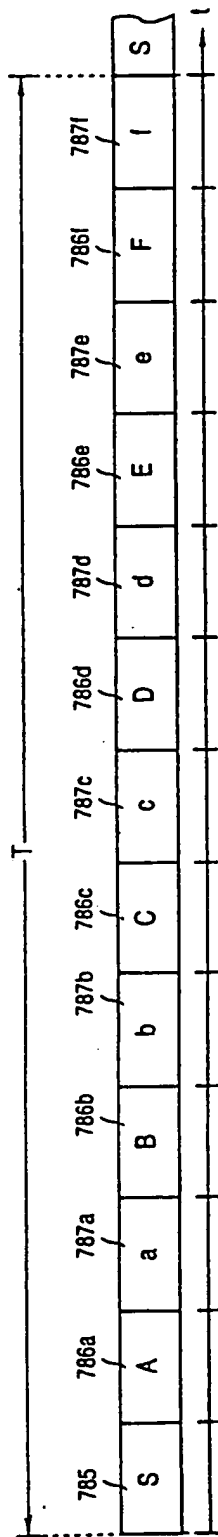


FIG. 120(b)

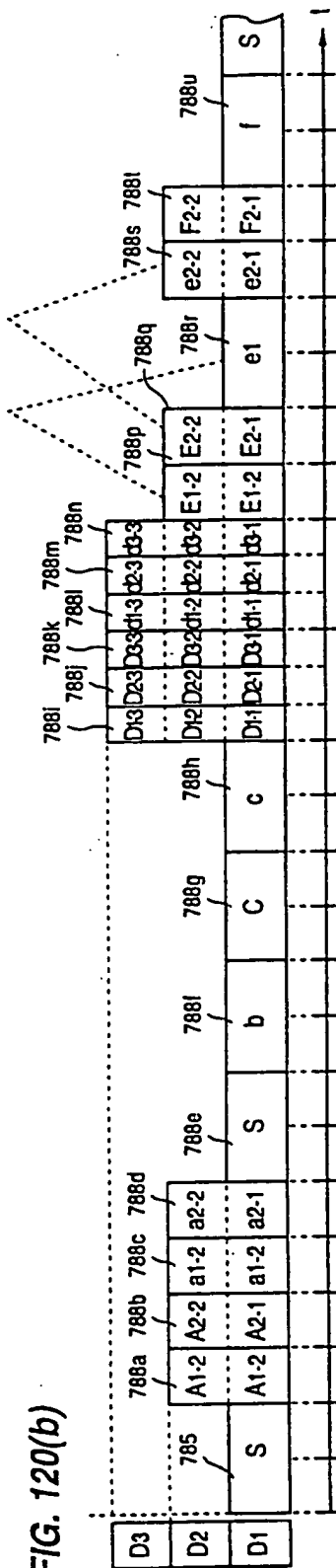


FIG. 121

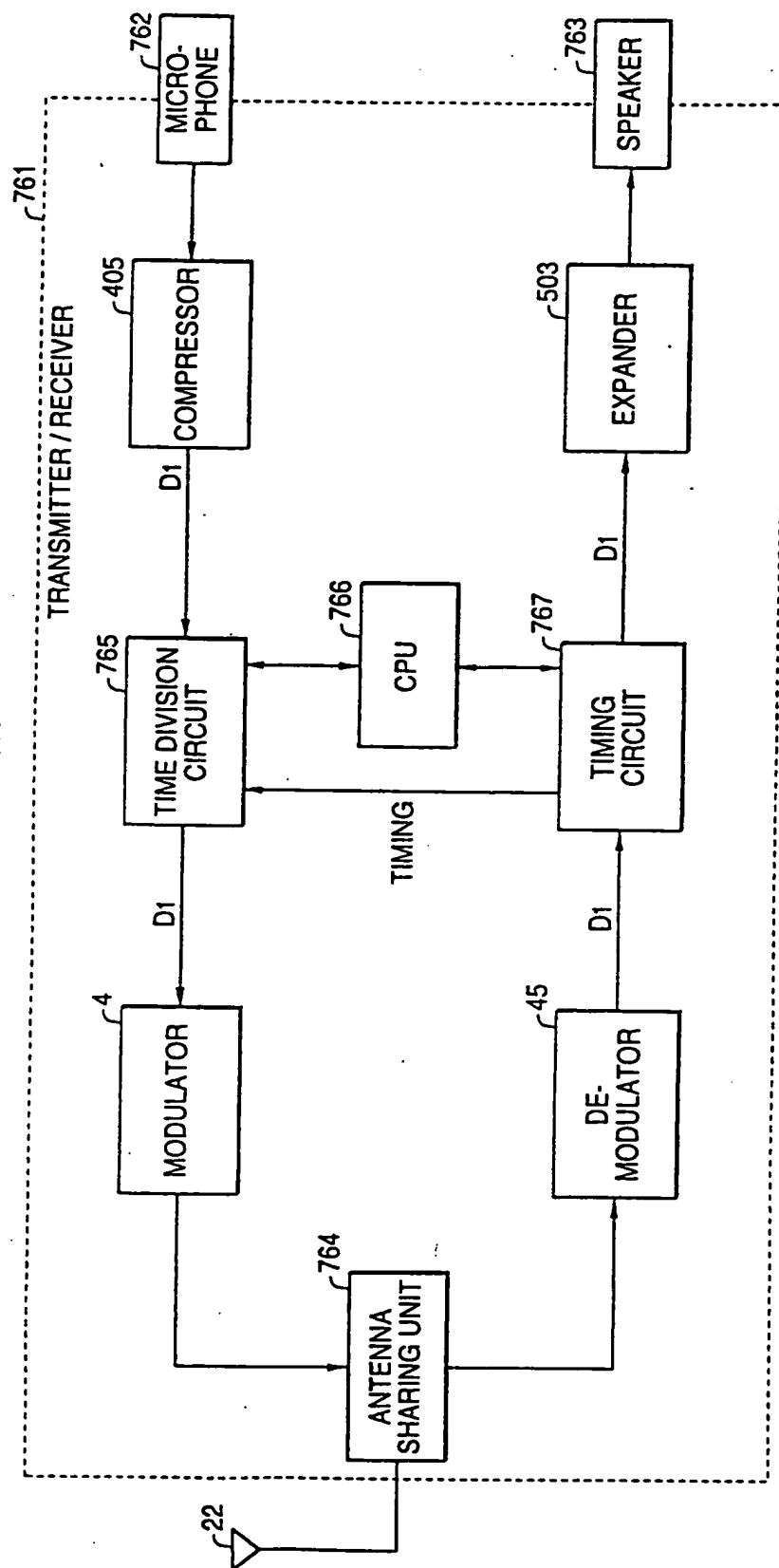


FIG. 122

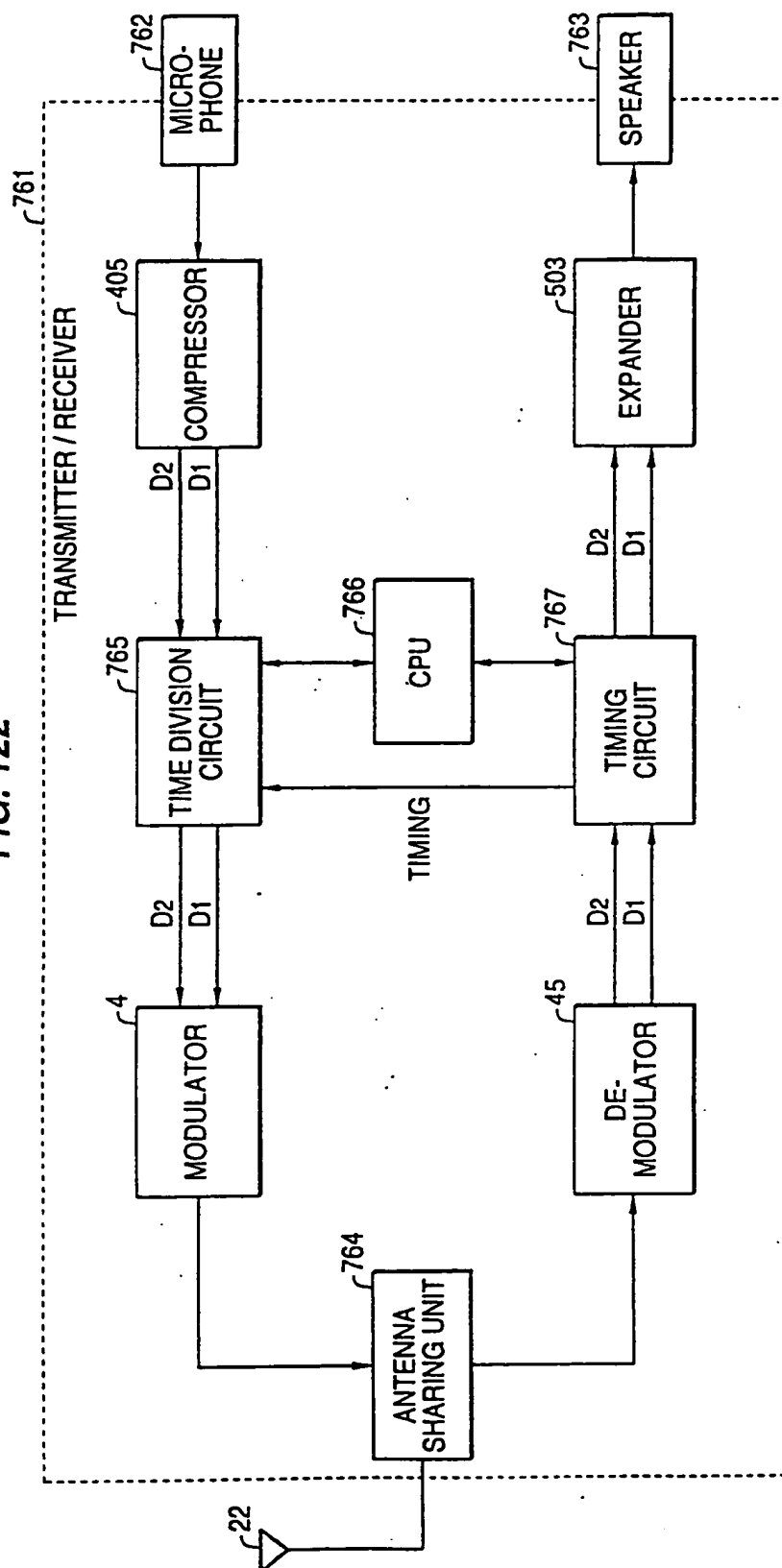
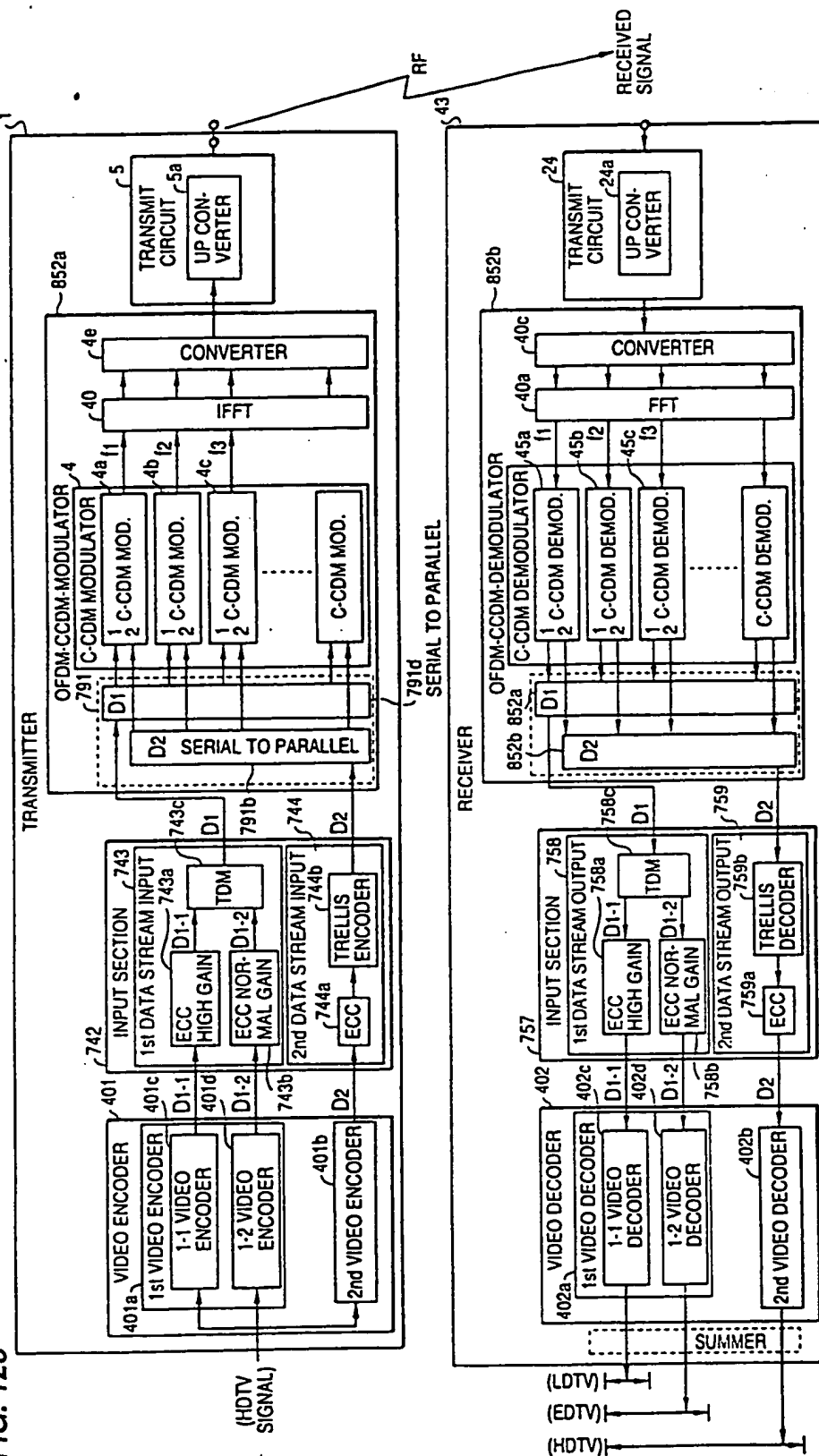


FIG. 123



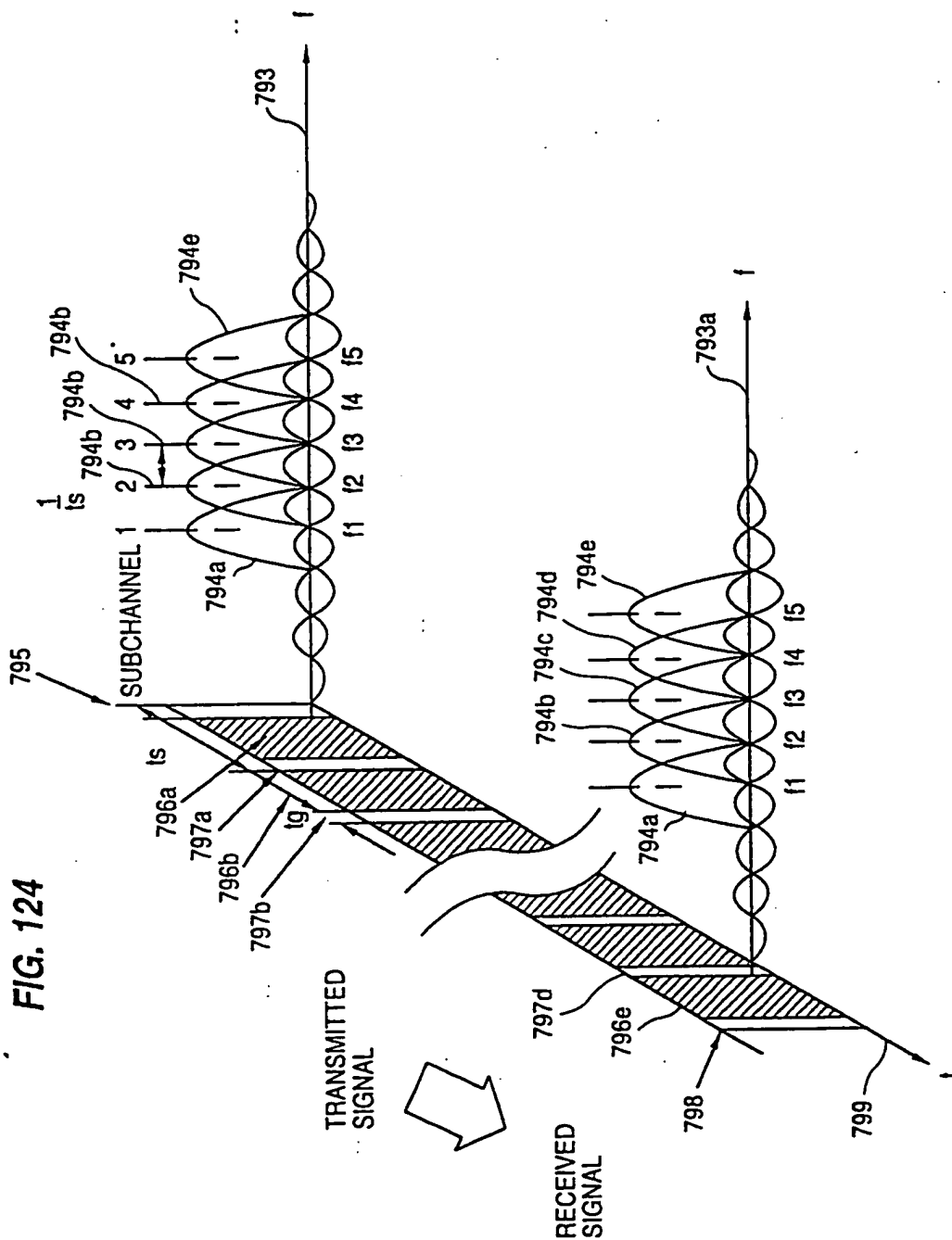


FIG. 125(a)

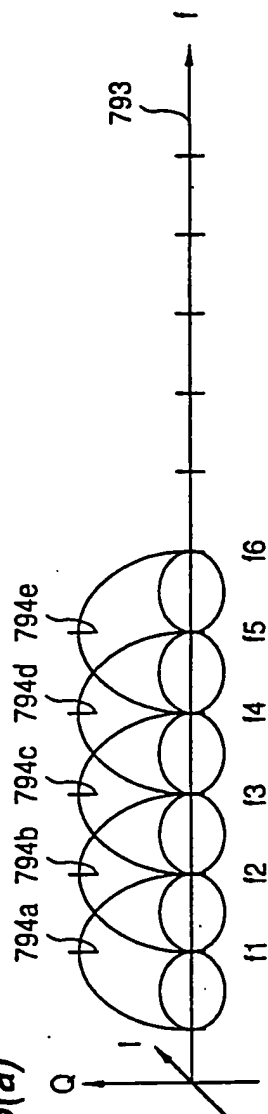
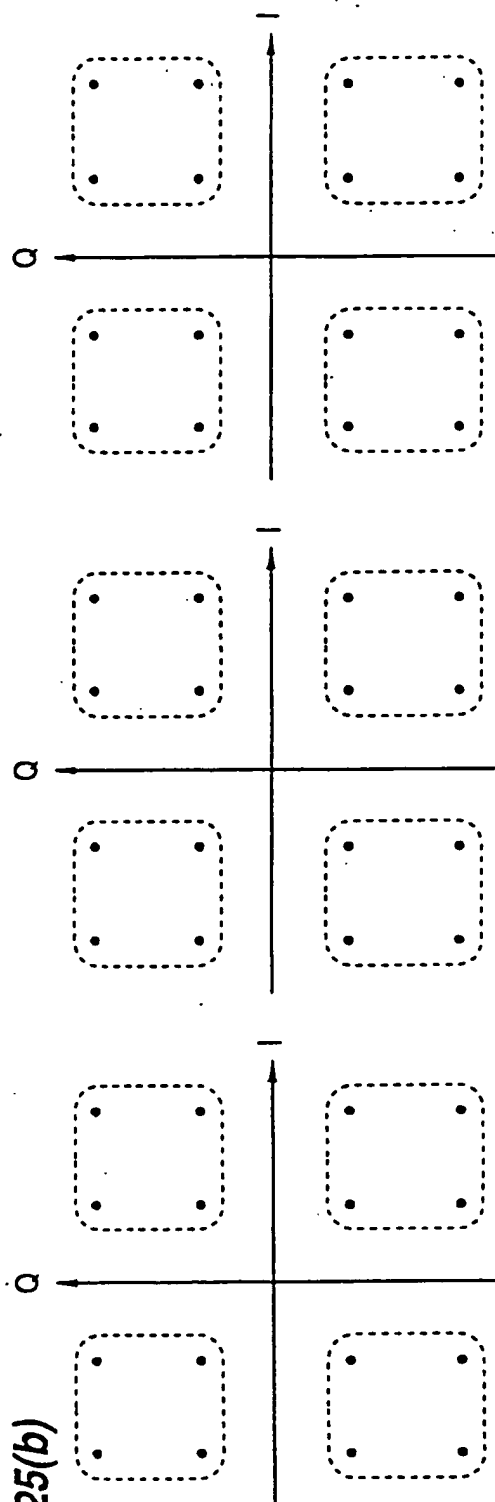


FIG. 125(b)



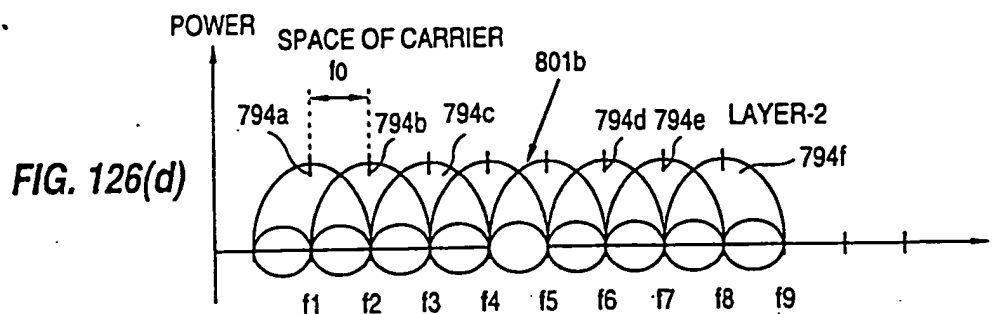
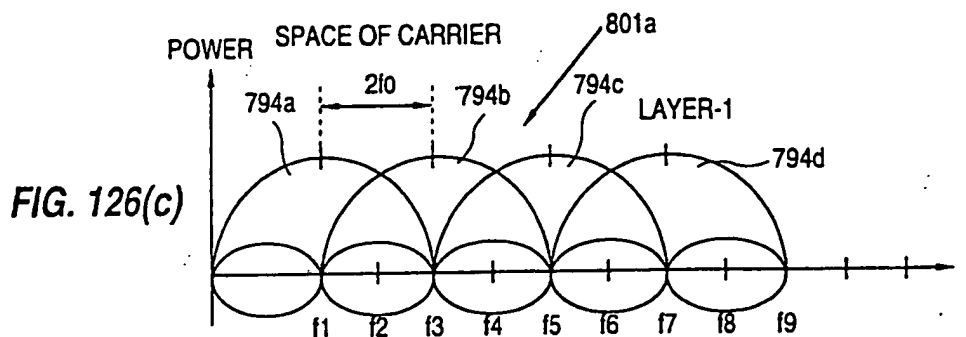
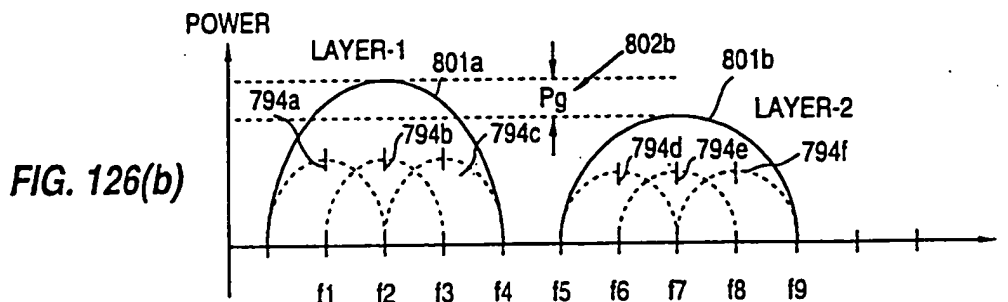
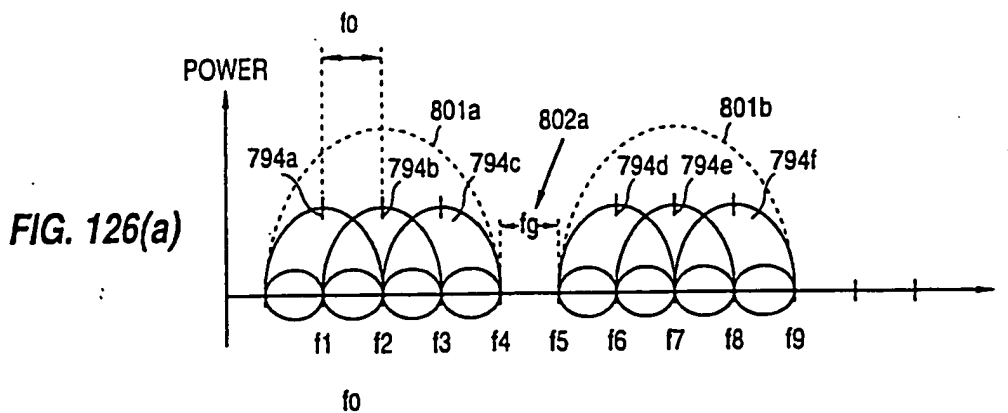


FIG. 127

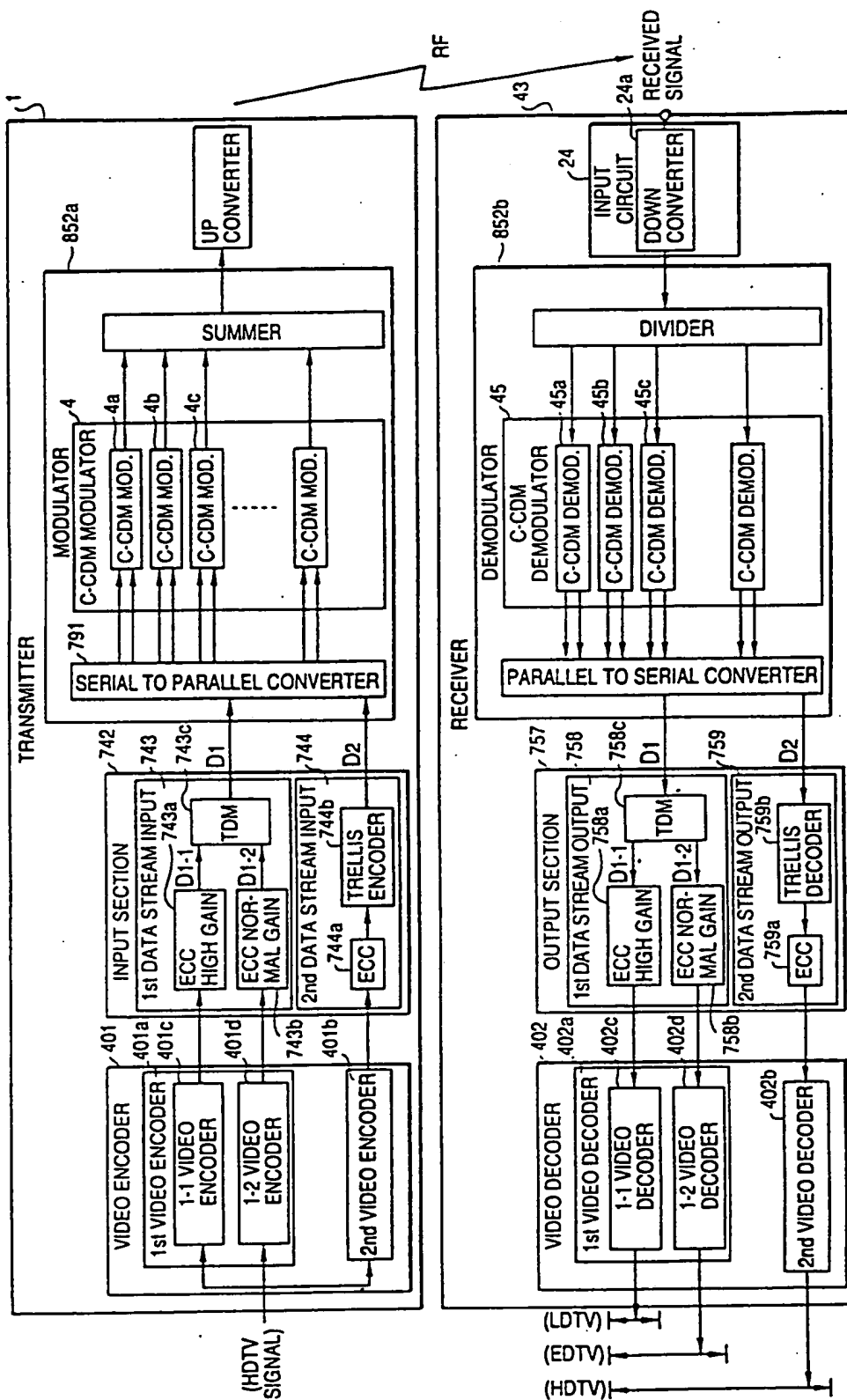


FIG. 128(a)

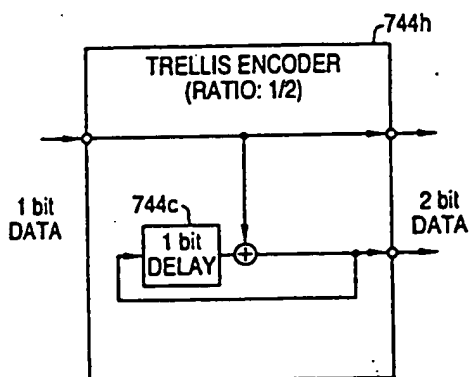


FIG. 128(d)

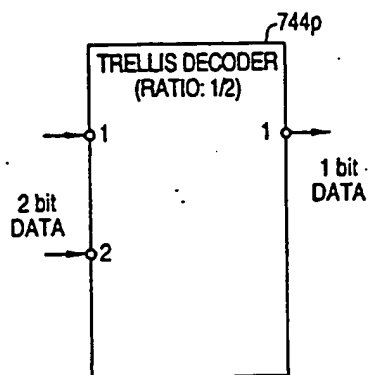


FIG. 128(b)

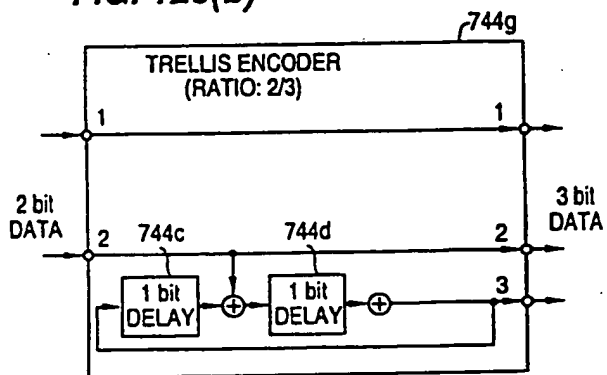


FIG. 128(e)

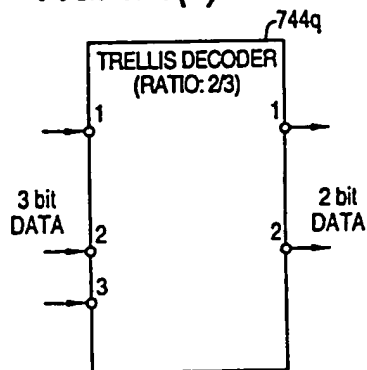


FIG. 128(c)

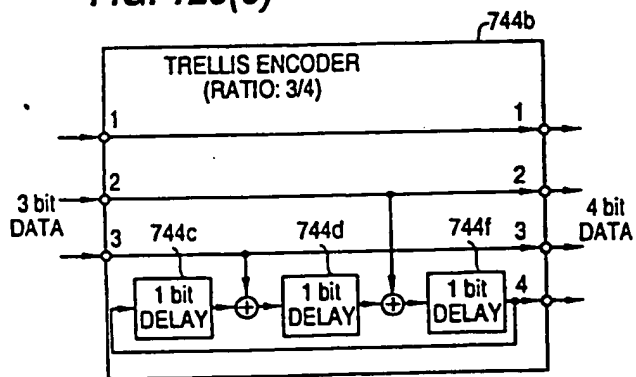


FIG. 128(f)

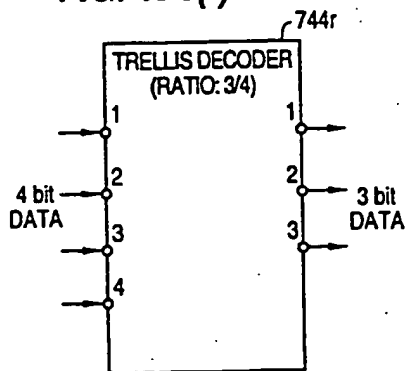


FIG. 129

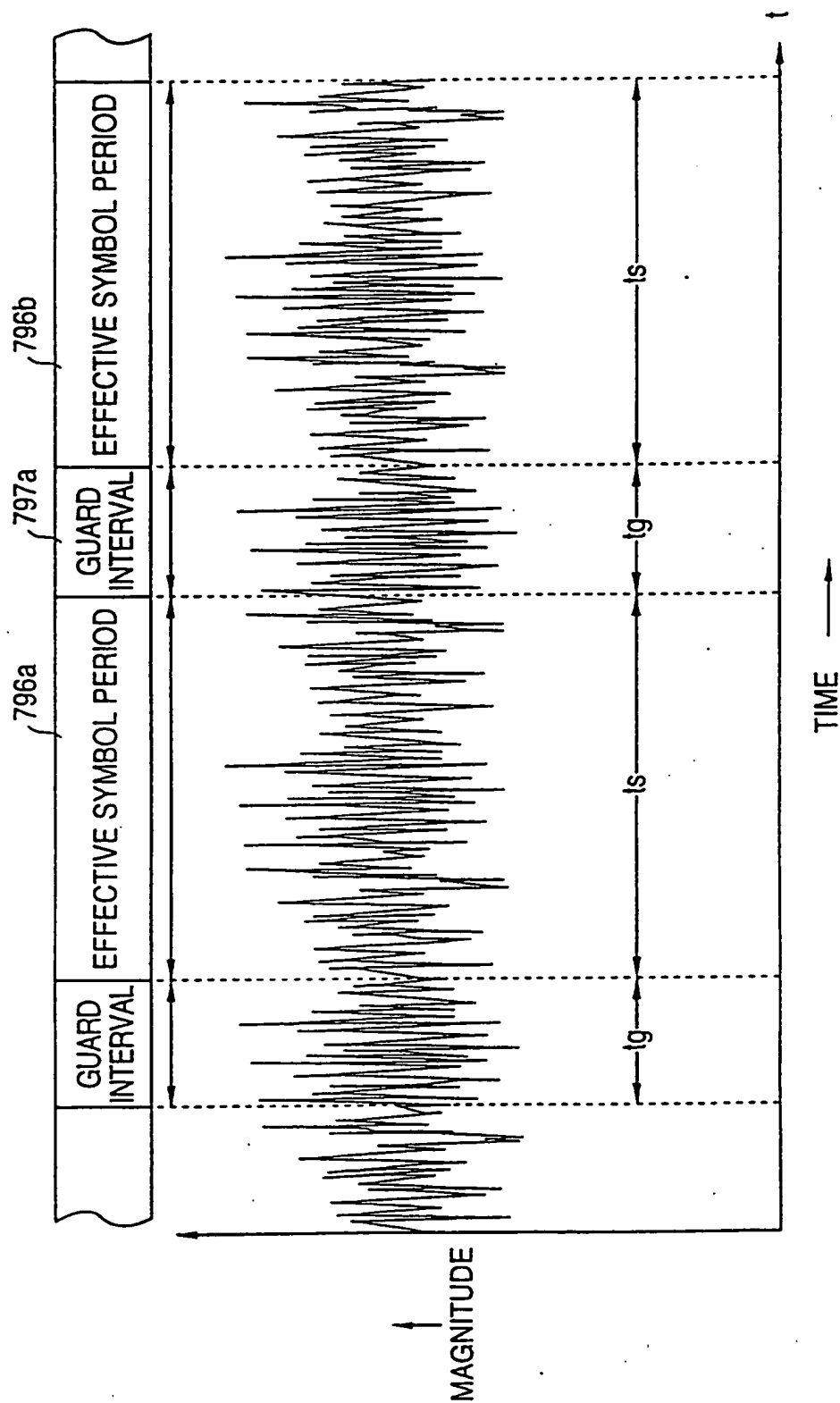


FIG. 130

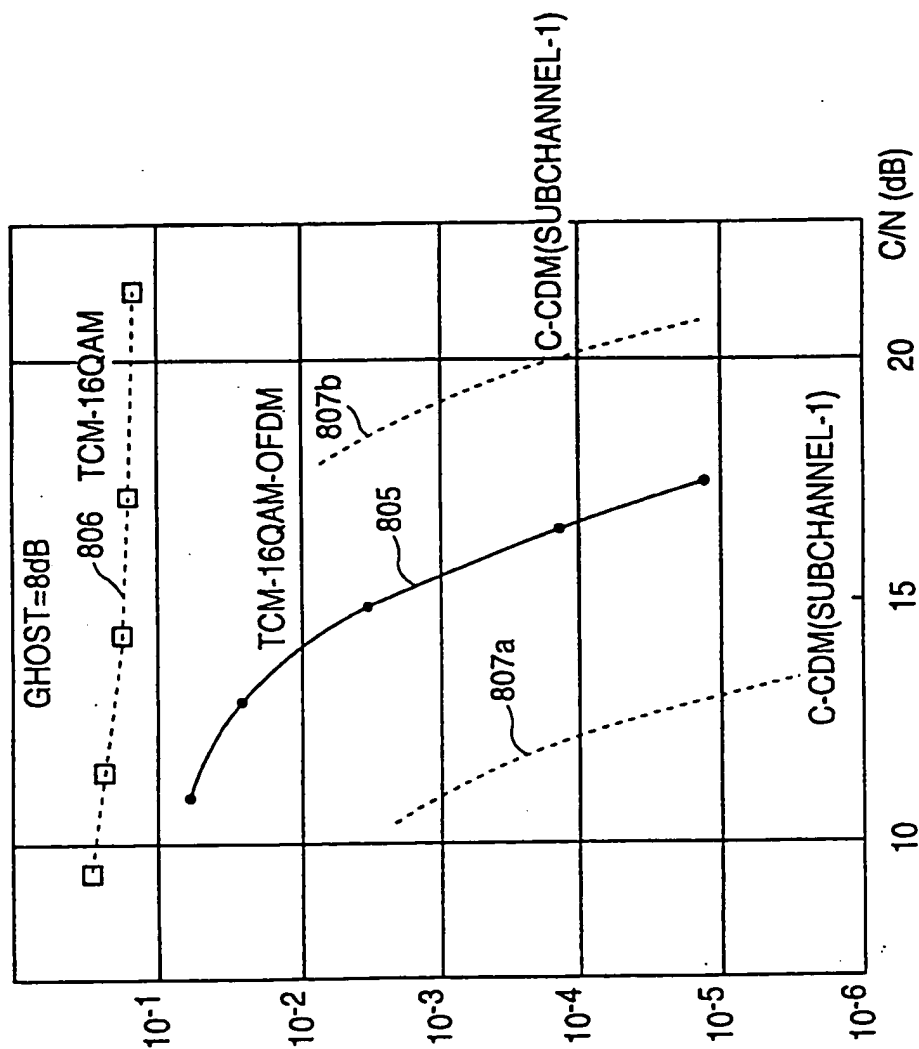
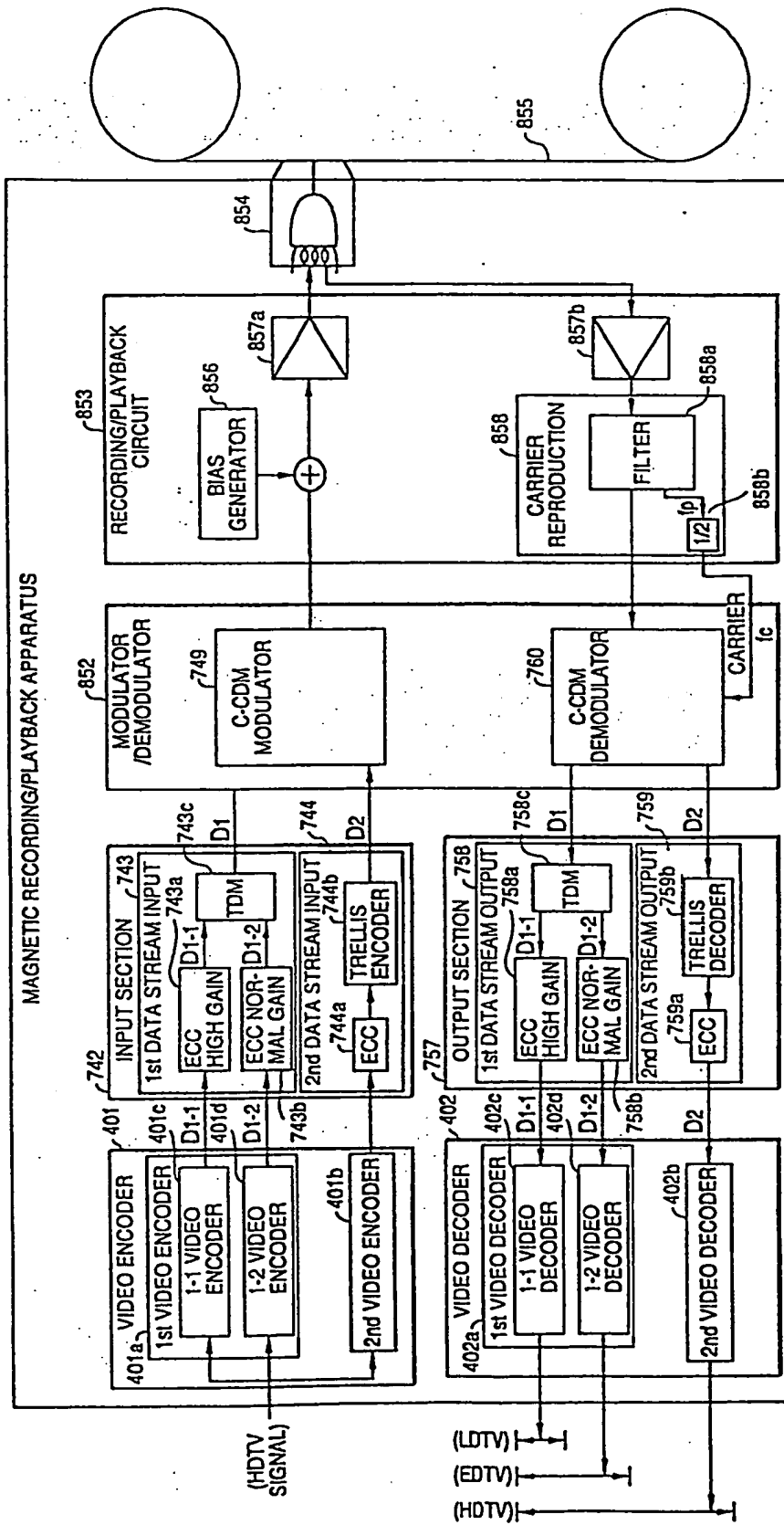


FIG. 131 (Amended)



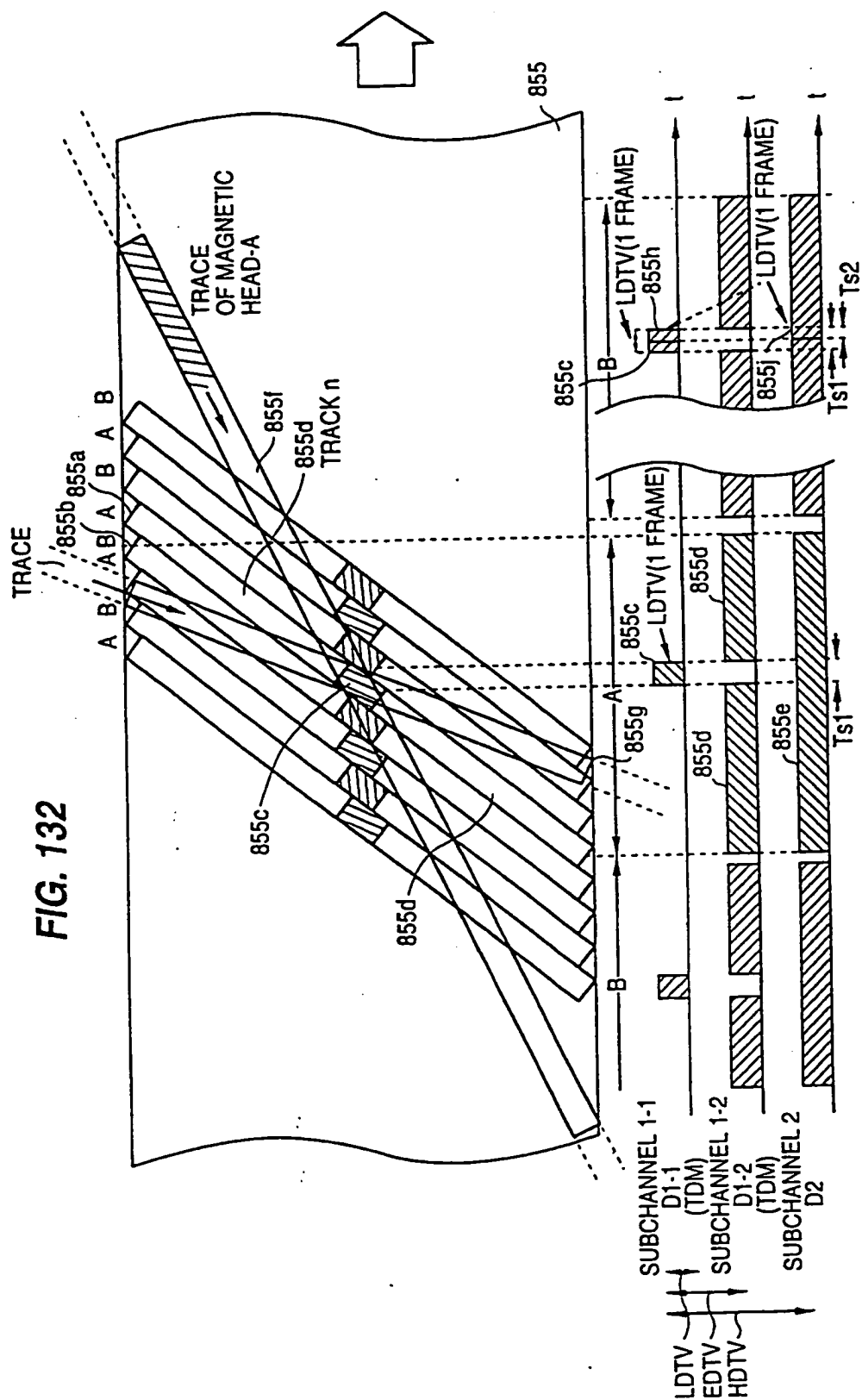


FIG. 133

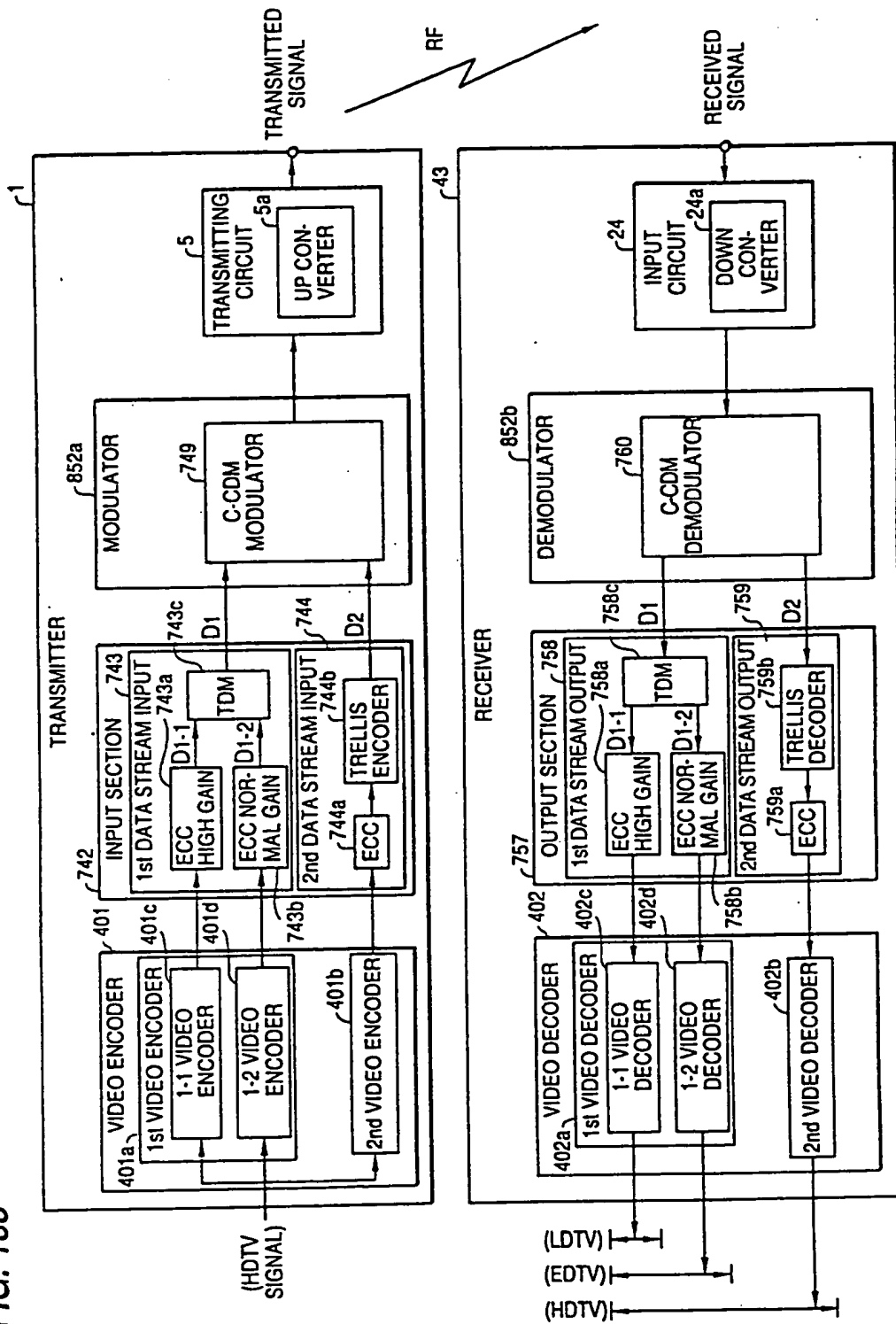


FIG. 134

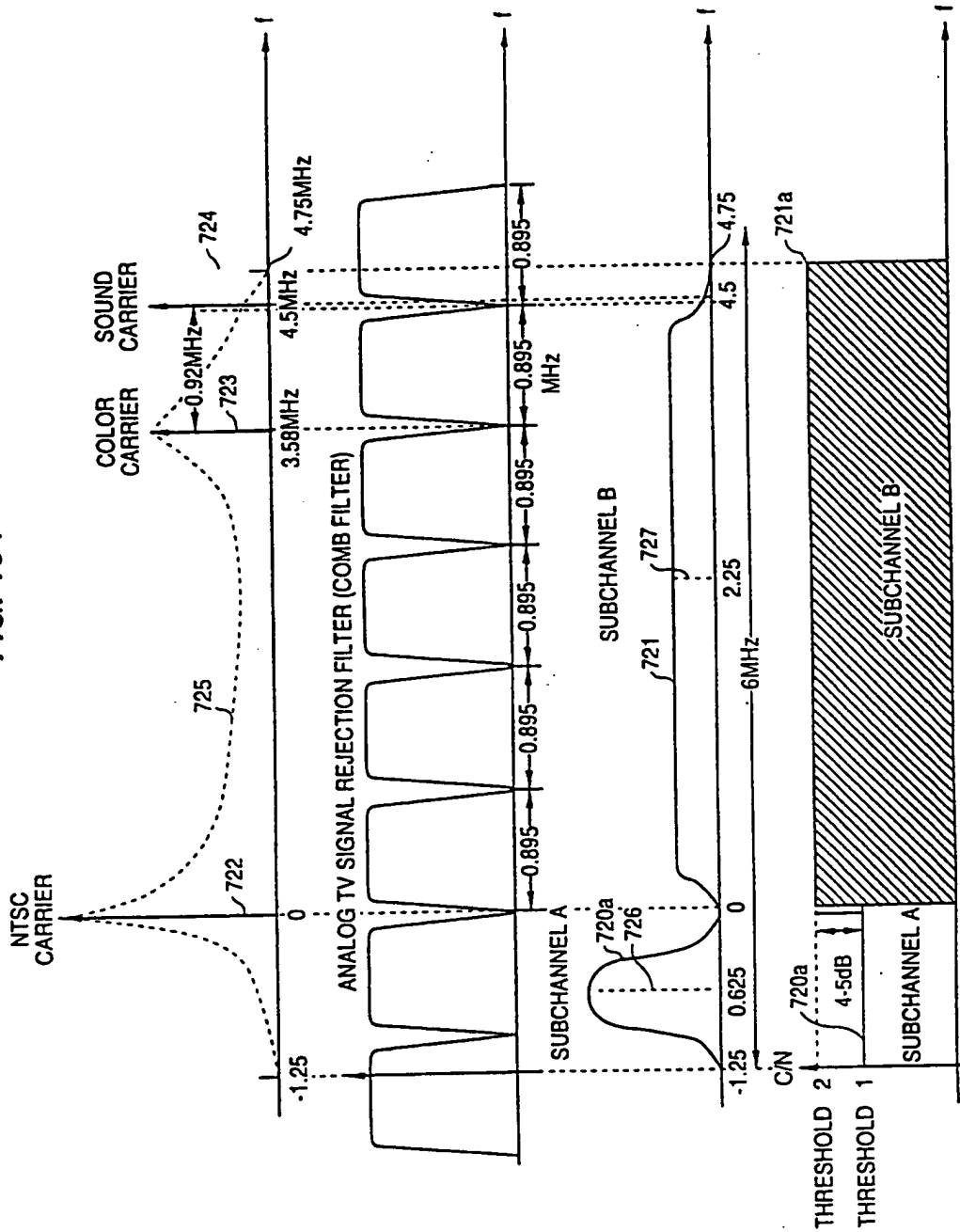


FIG. 135

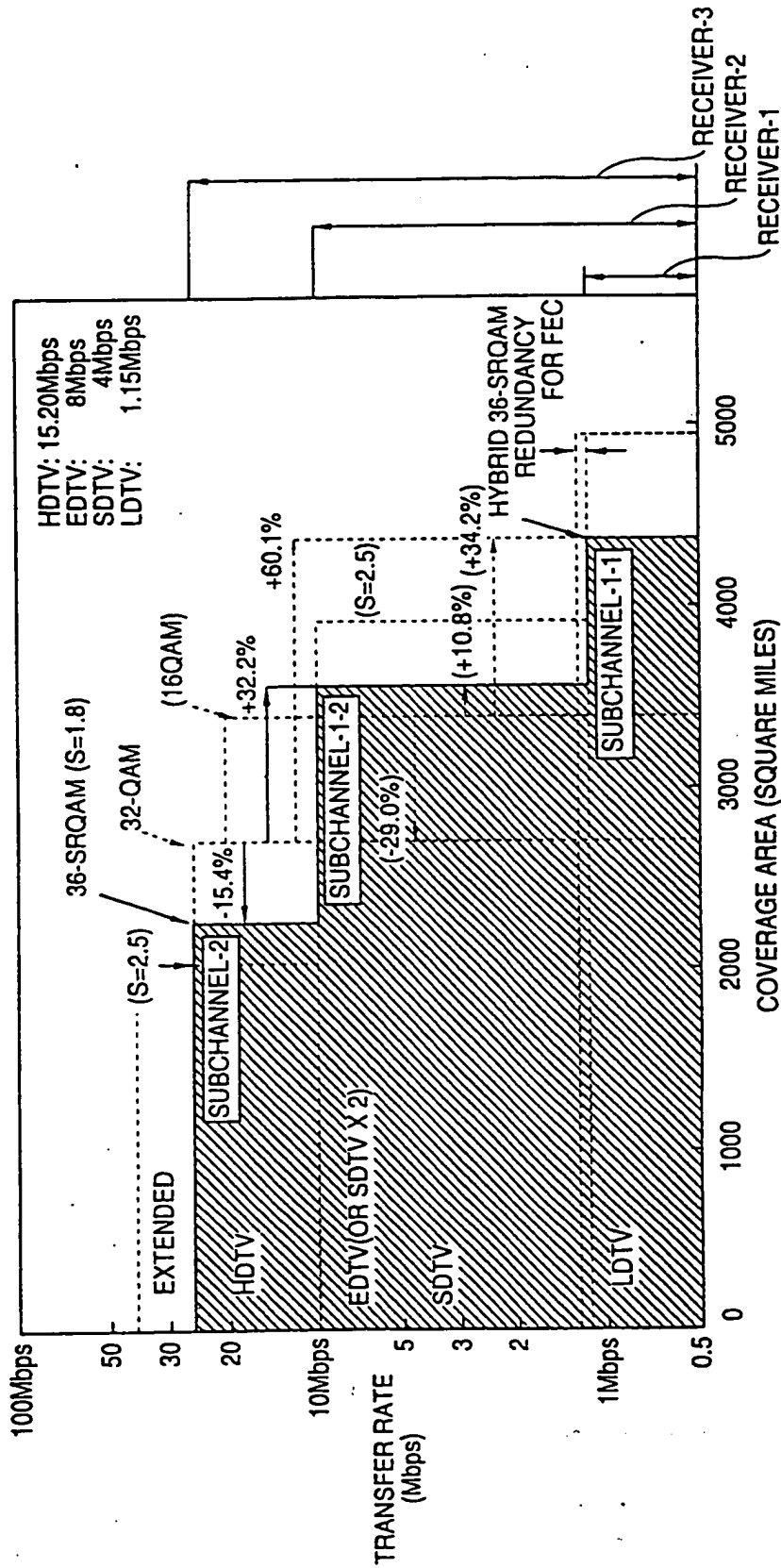


FIG. 136

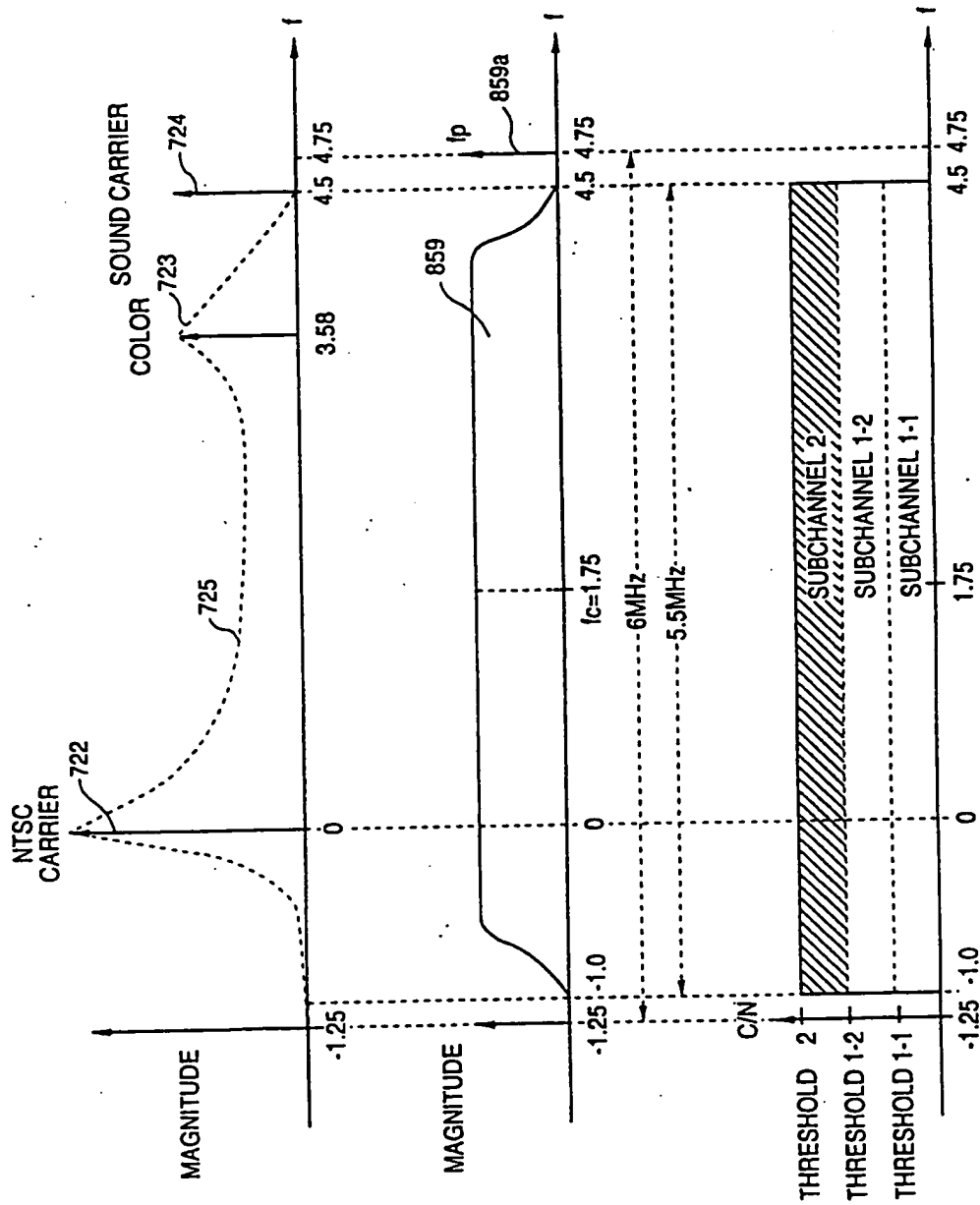


FIG. 137

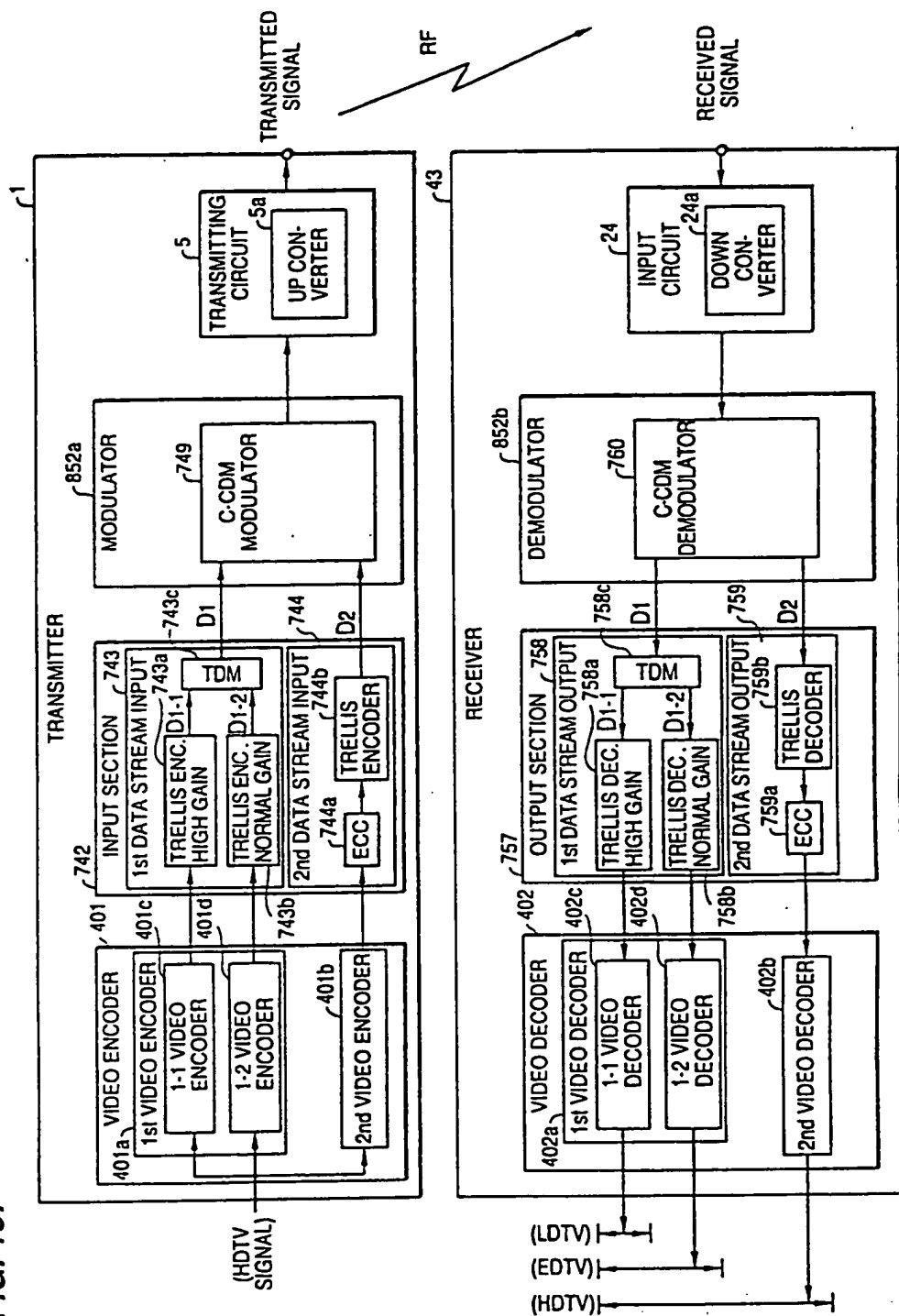


FIG. 138 (Amended)

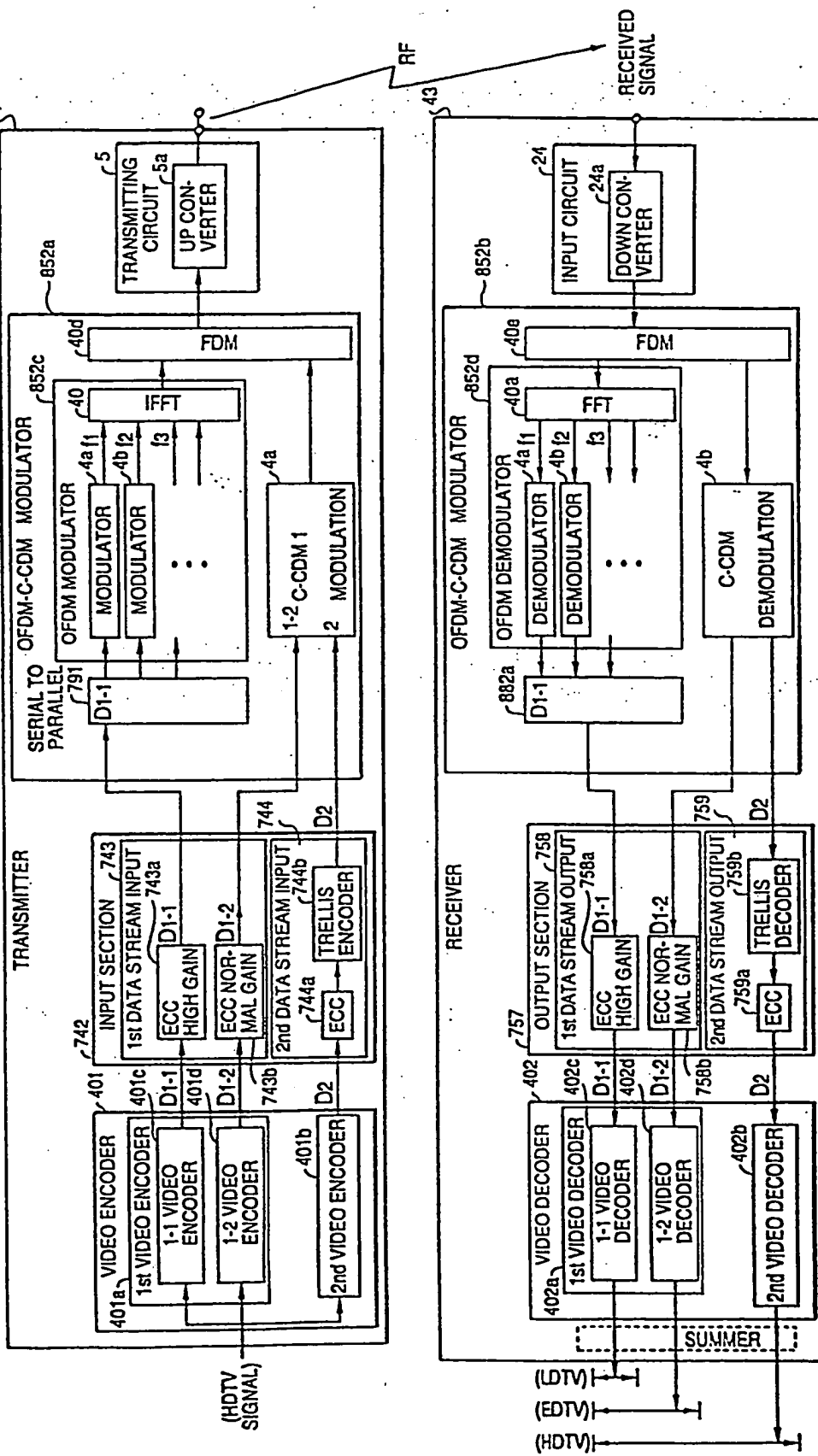


FIG. 139

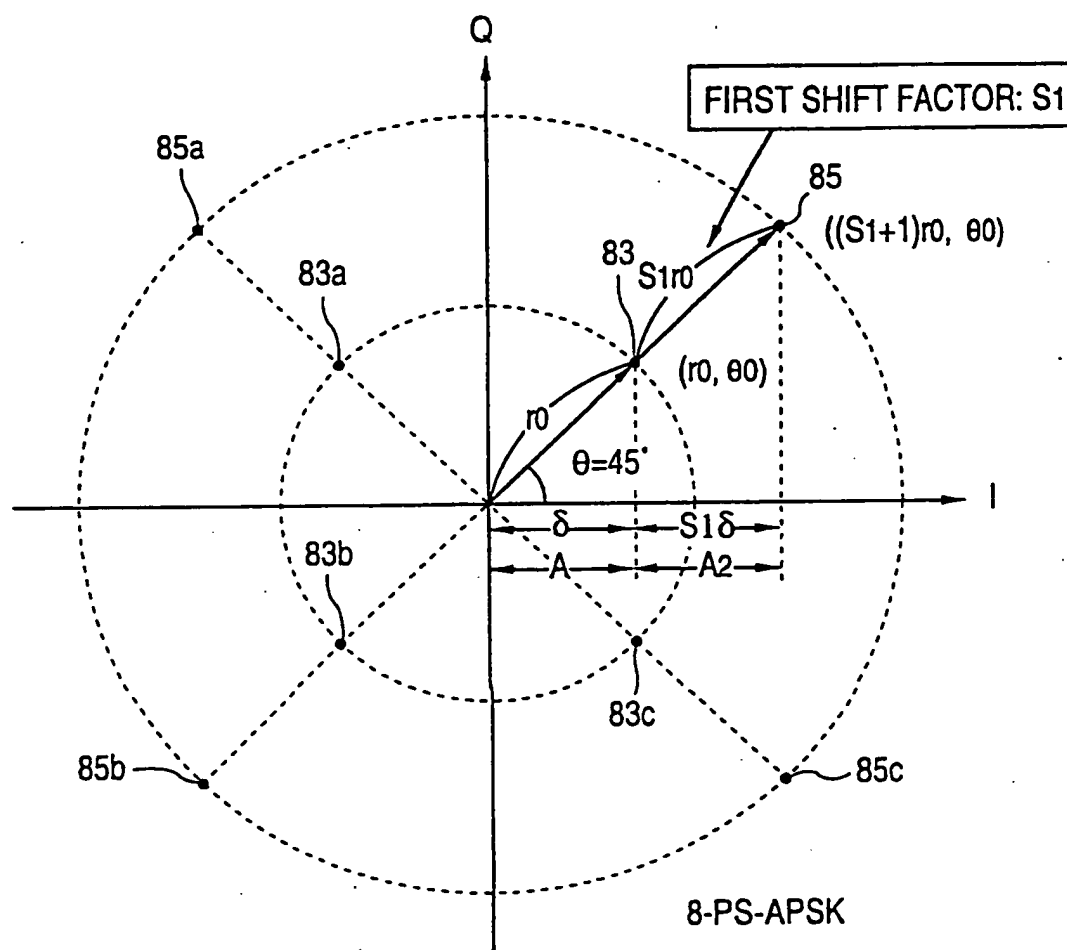


FIG. 140

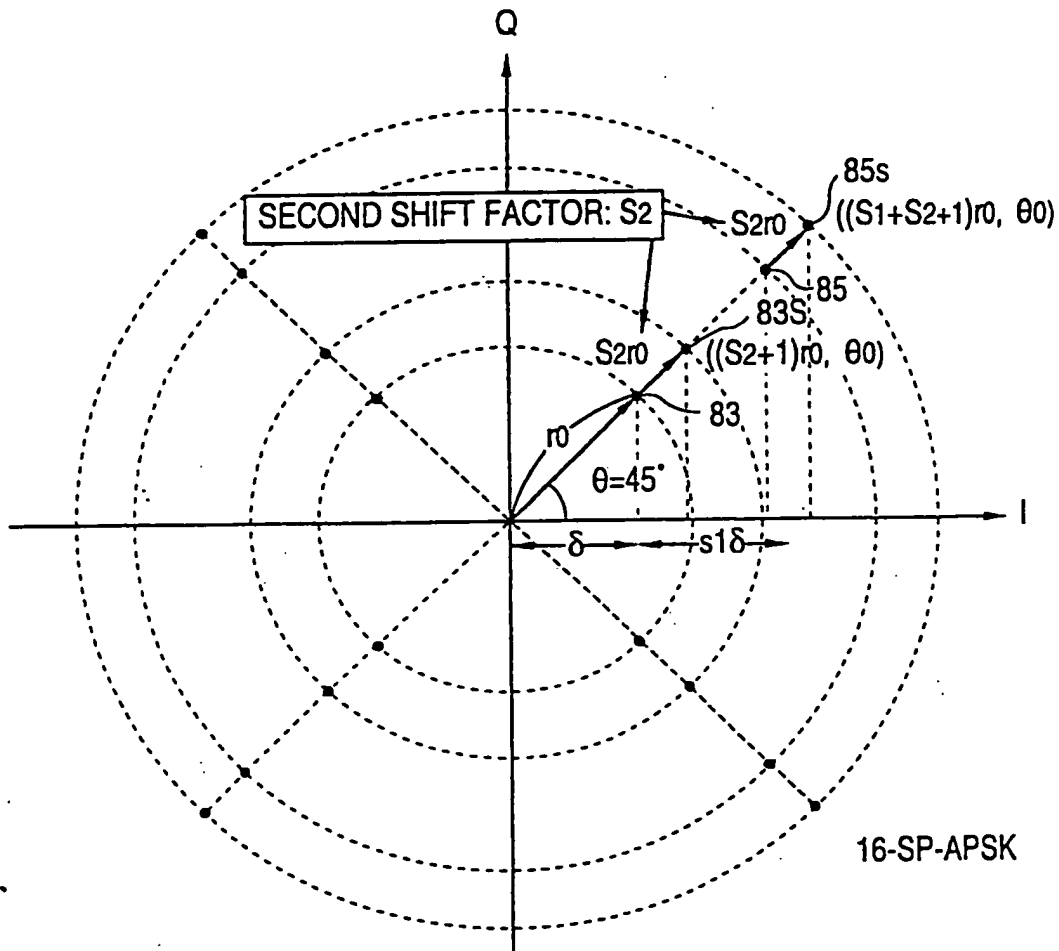


FIG. 141

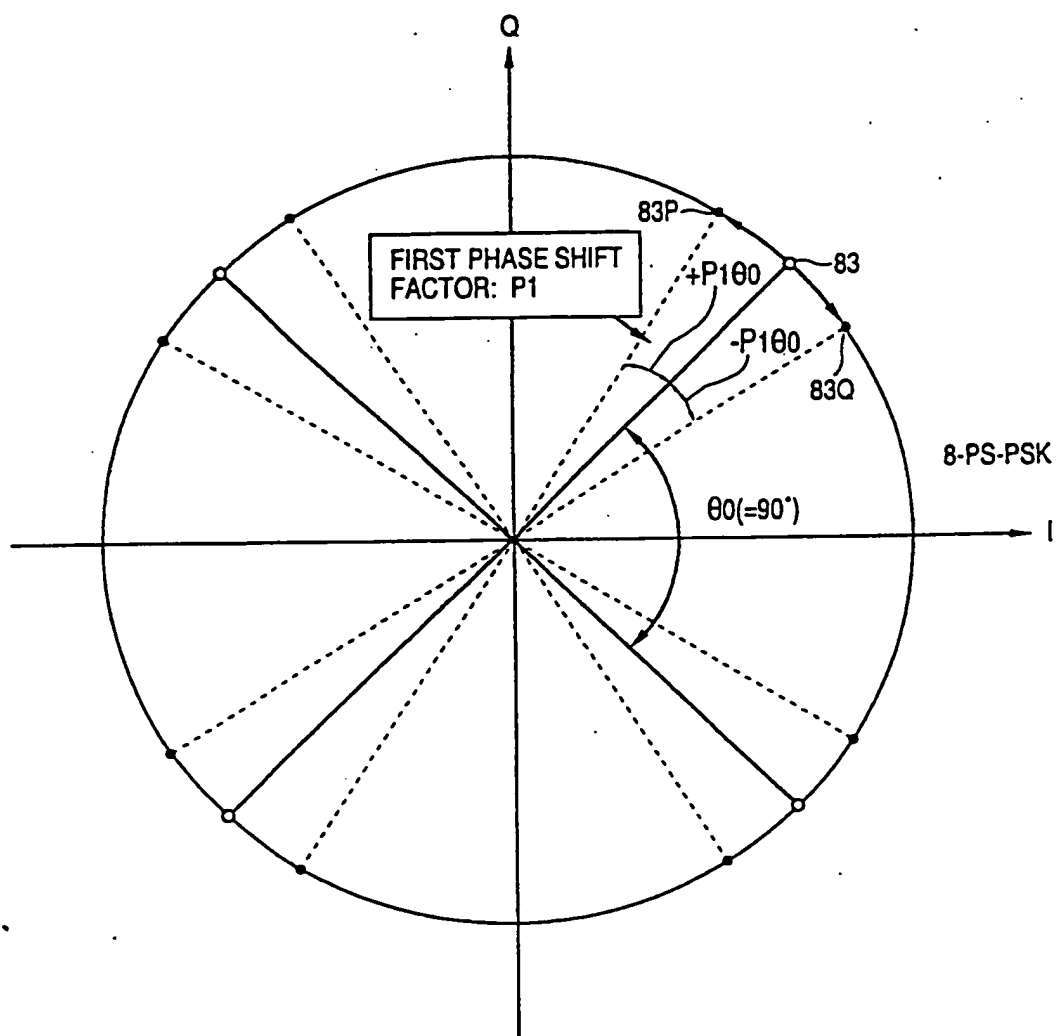


FIG. 142

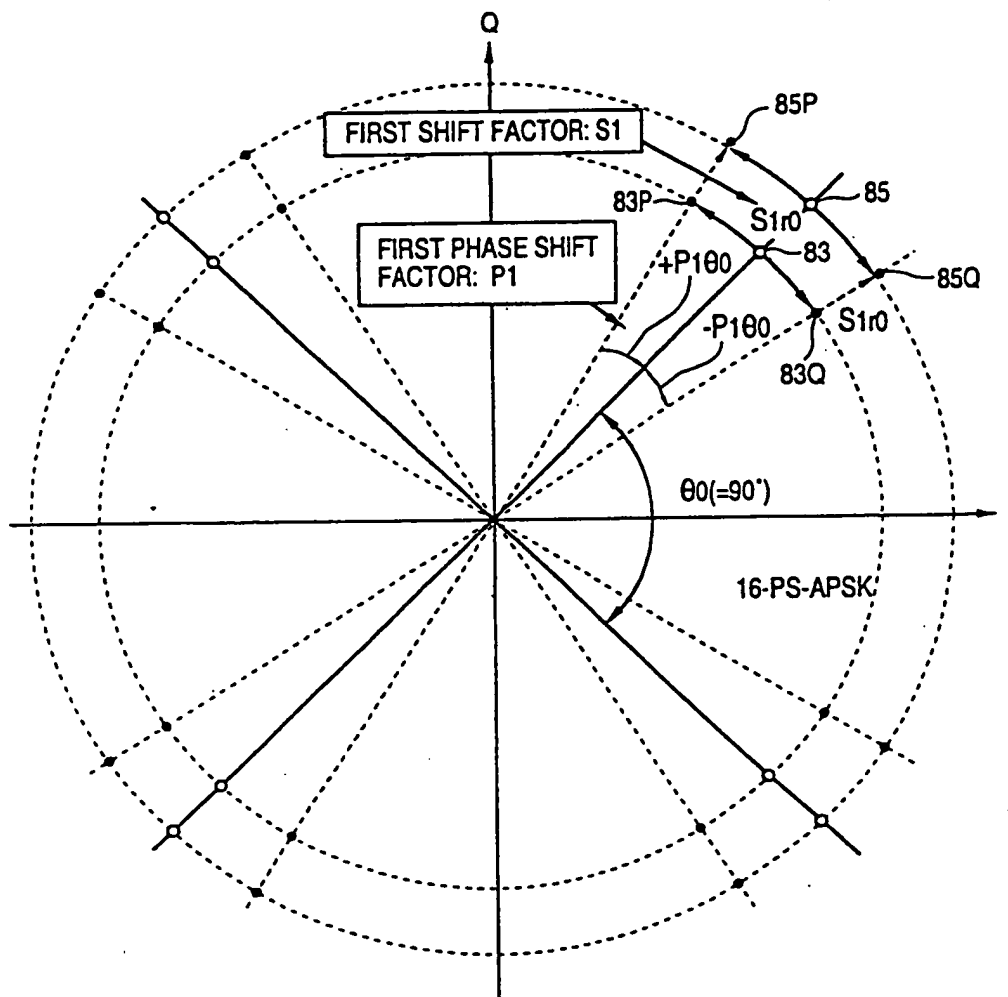


FIG. 143

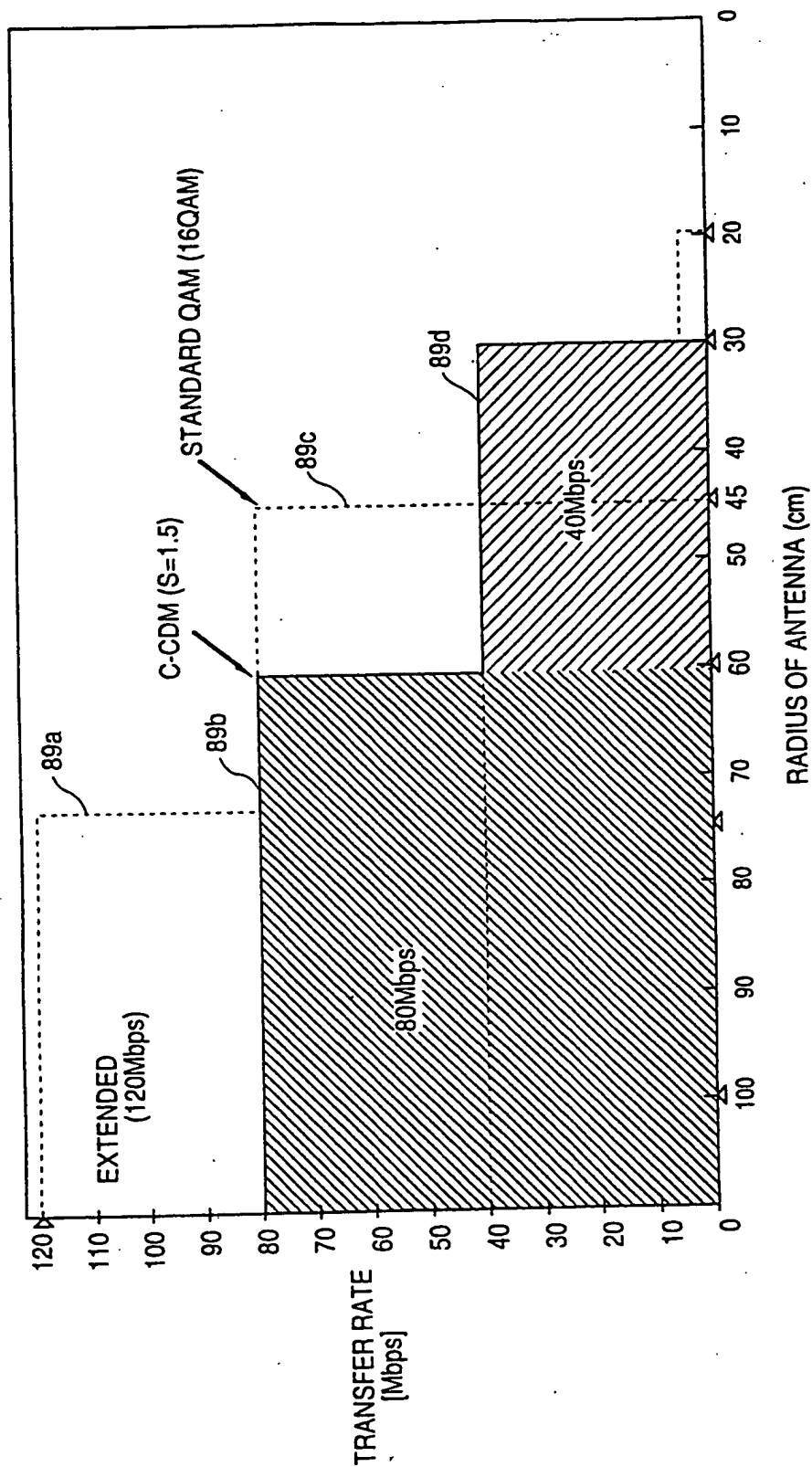


FIG. 144 (Amended)

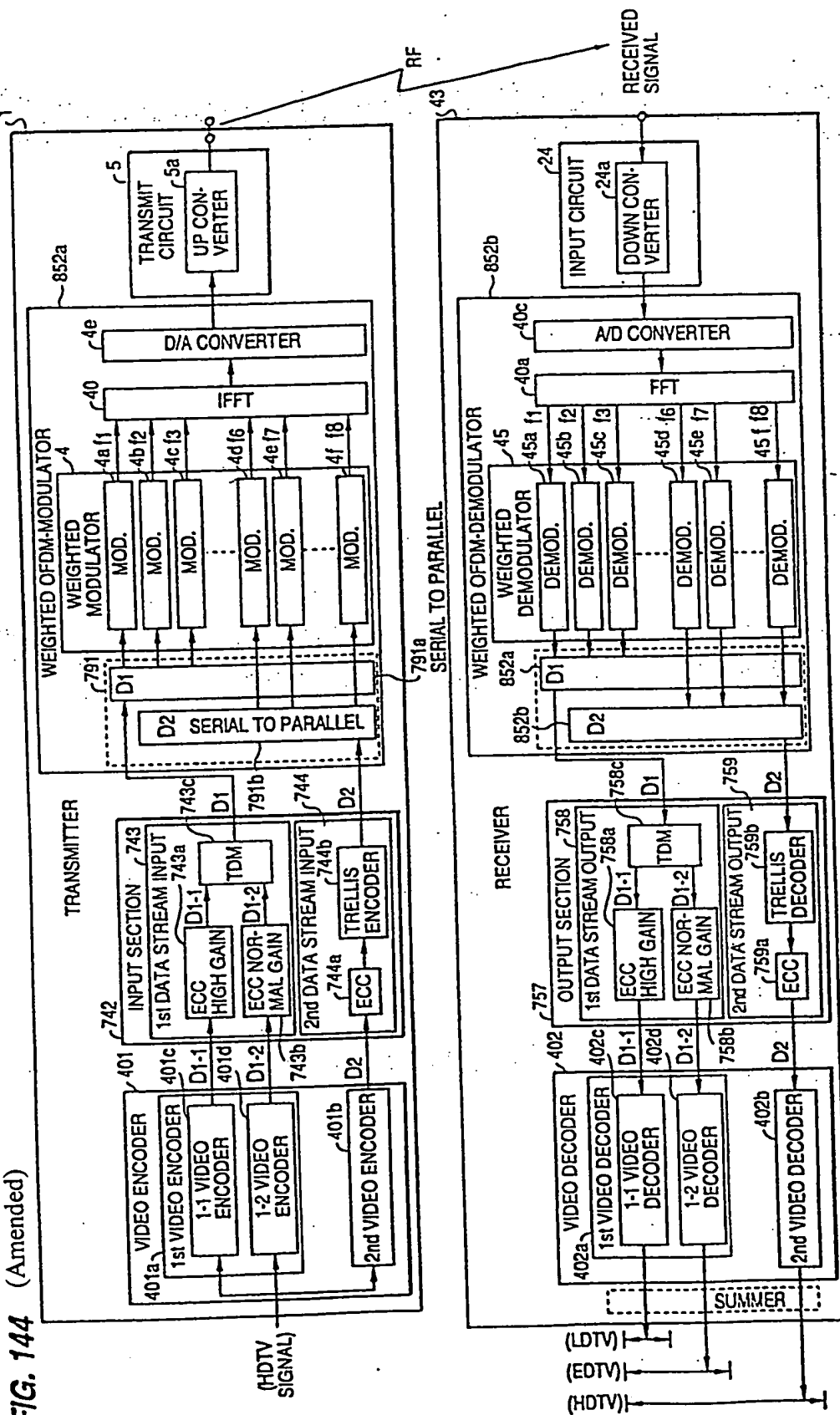


FIG. 145(a)

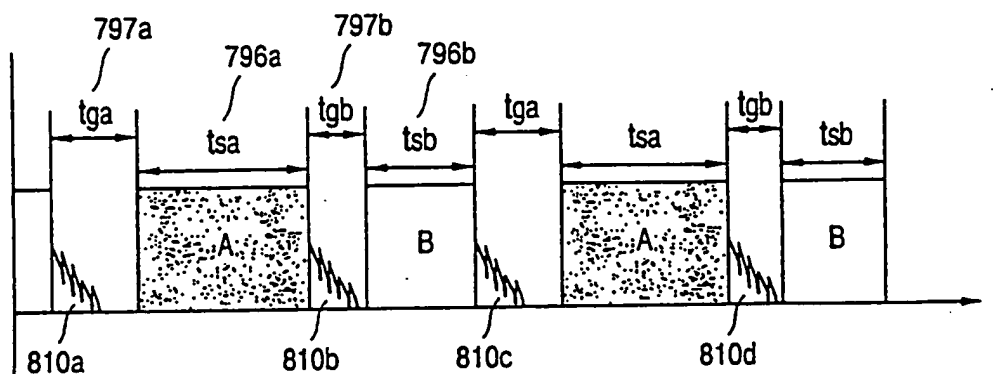
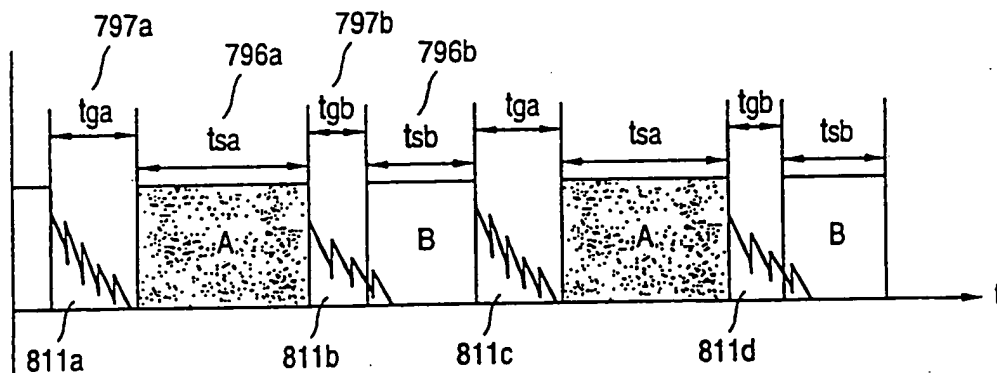


FIG. 145(b)



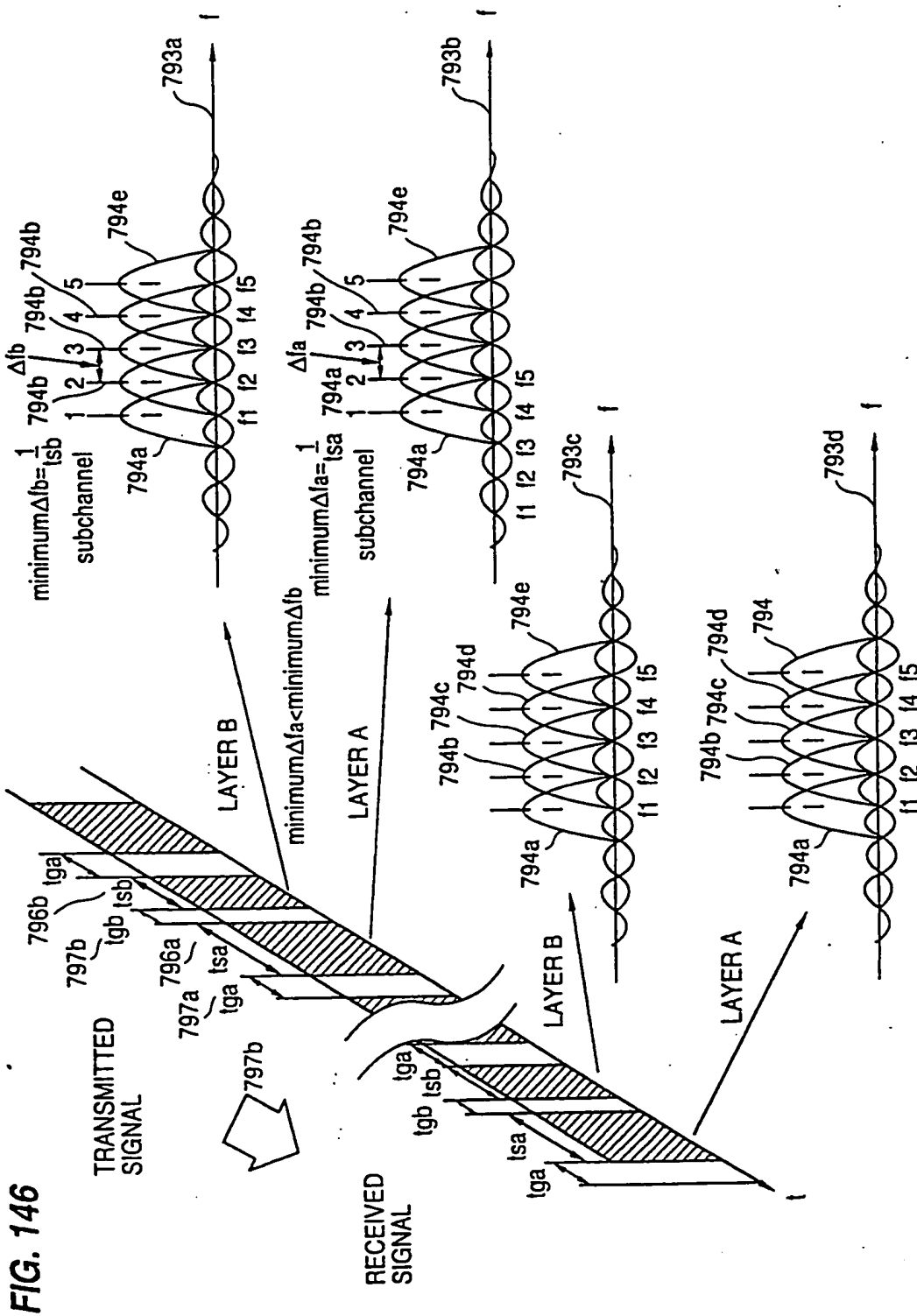


FIG. 147

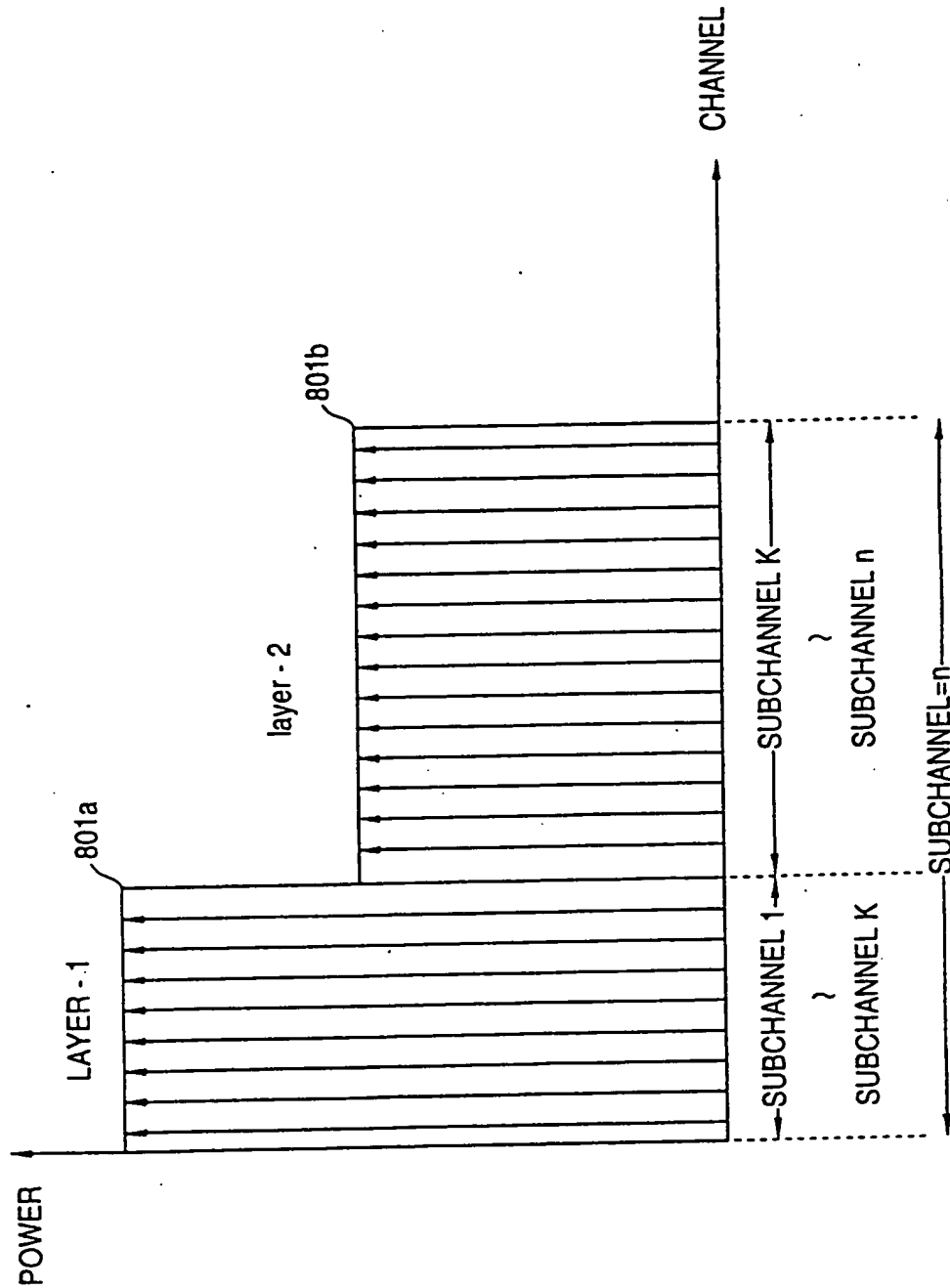
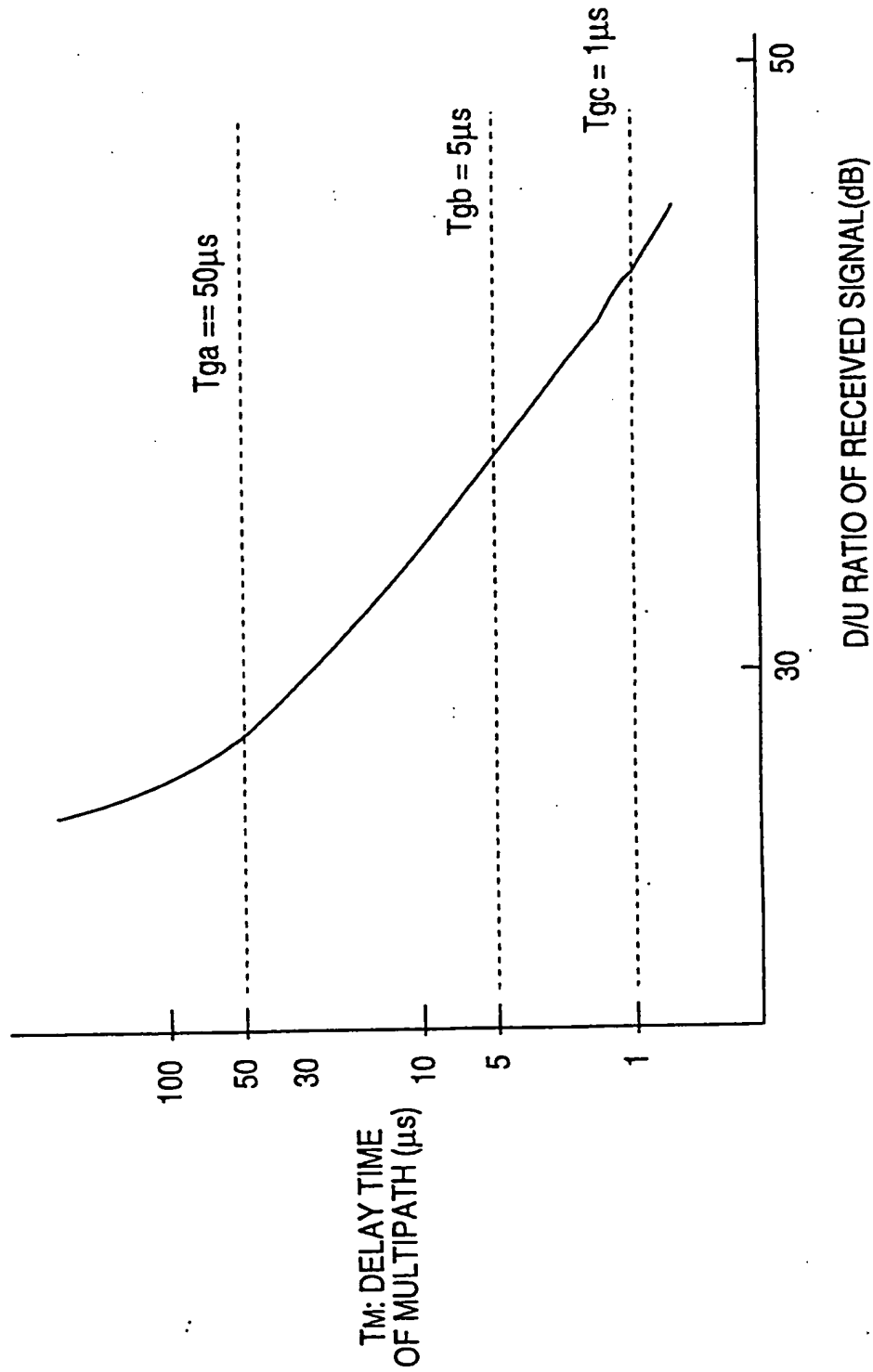


FIG. 148



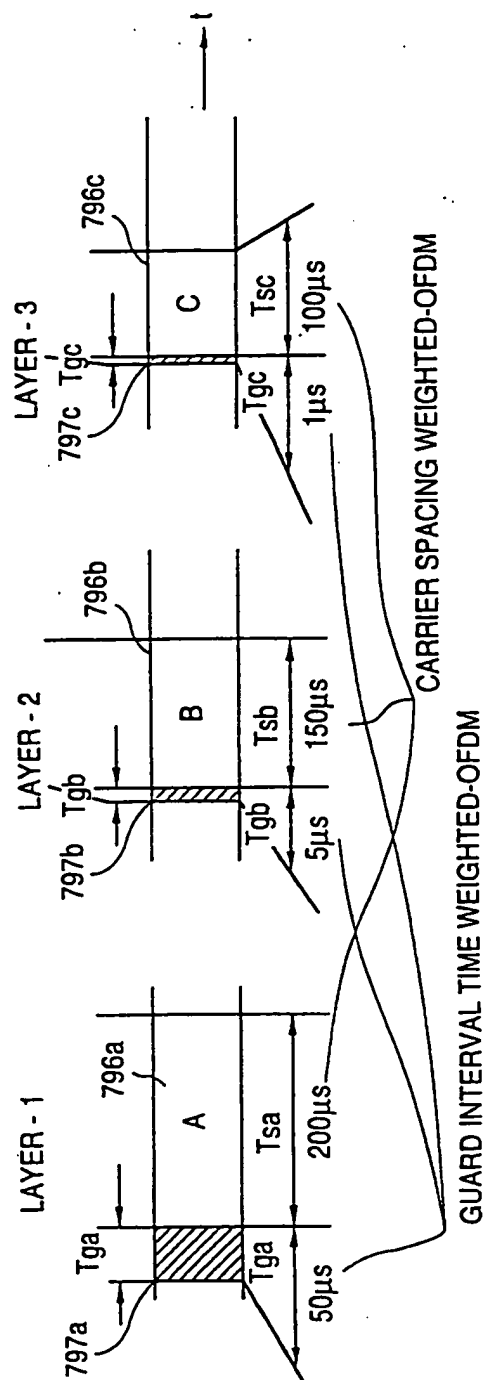
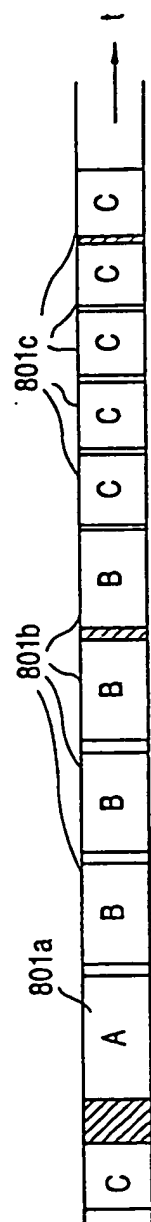
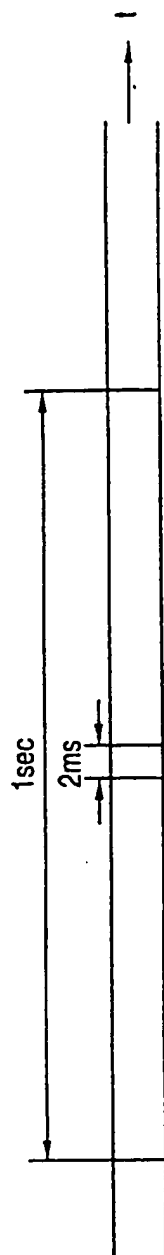


FIG. 150

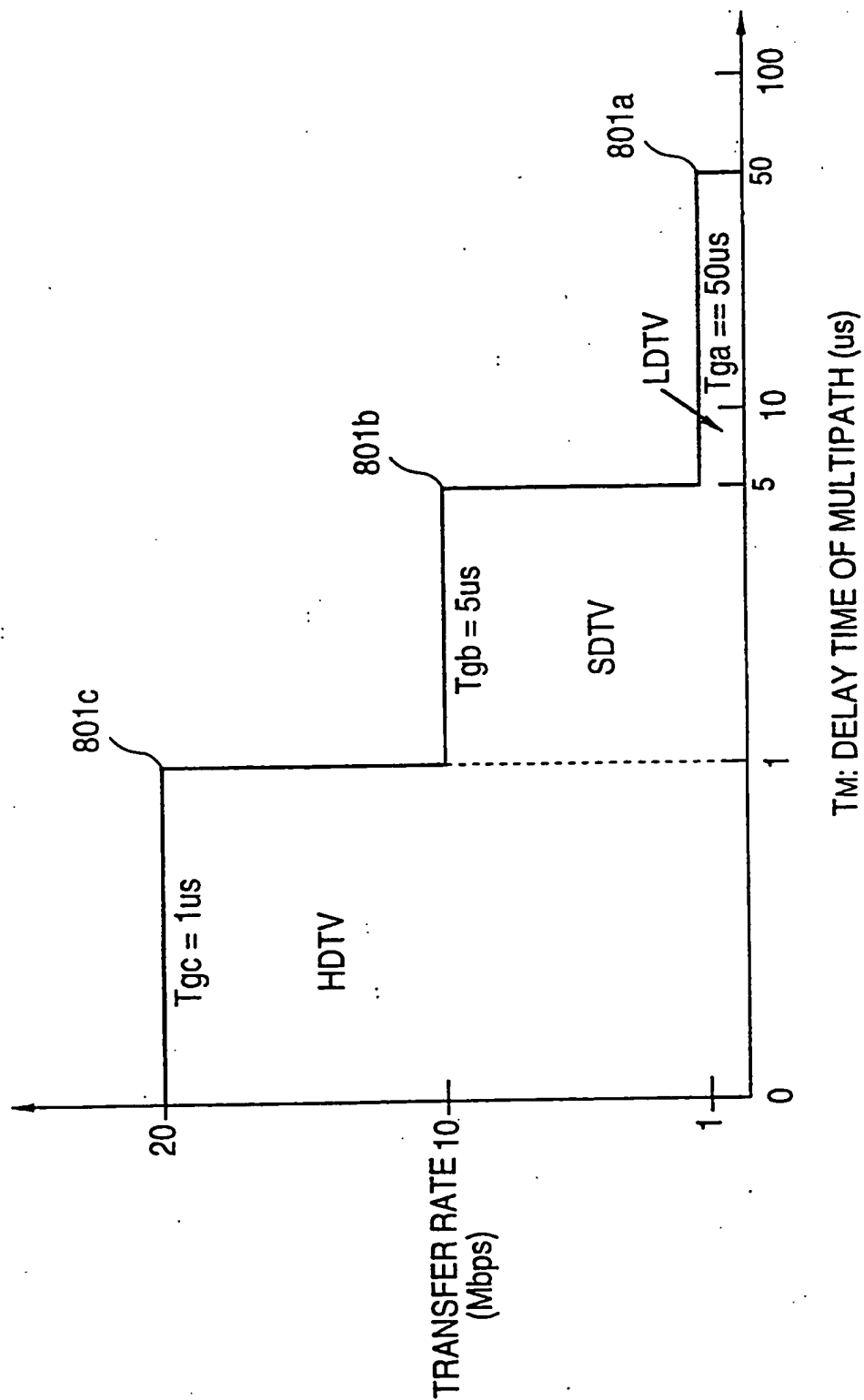


FIG. 151

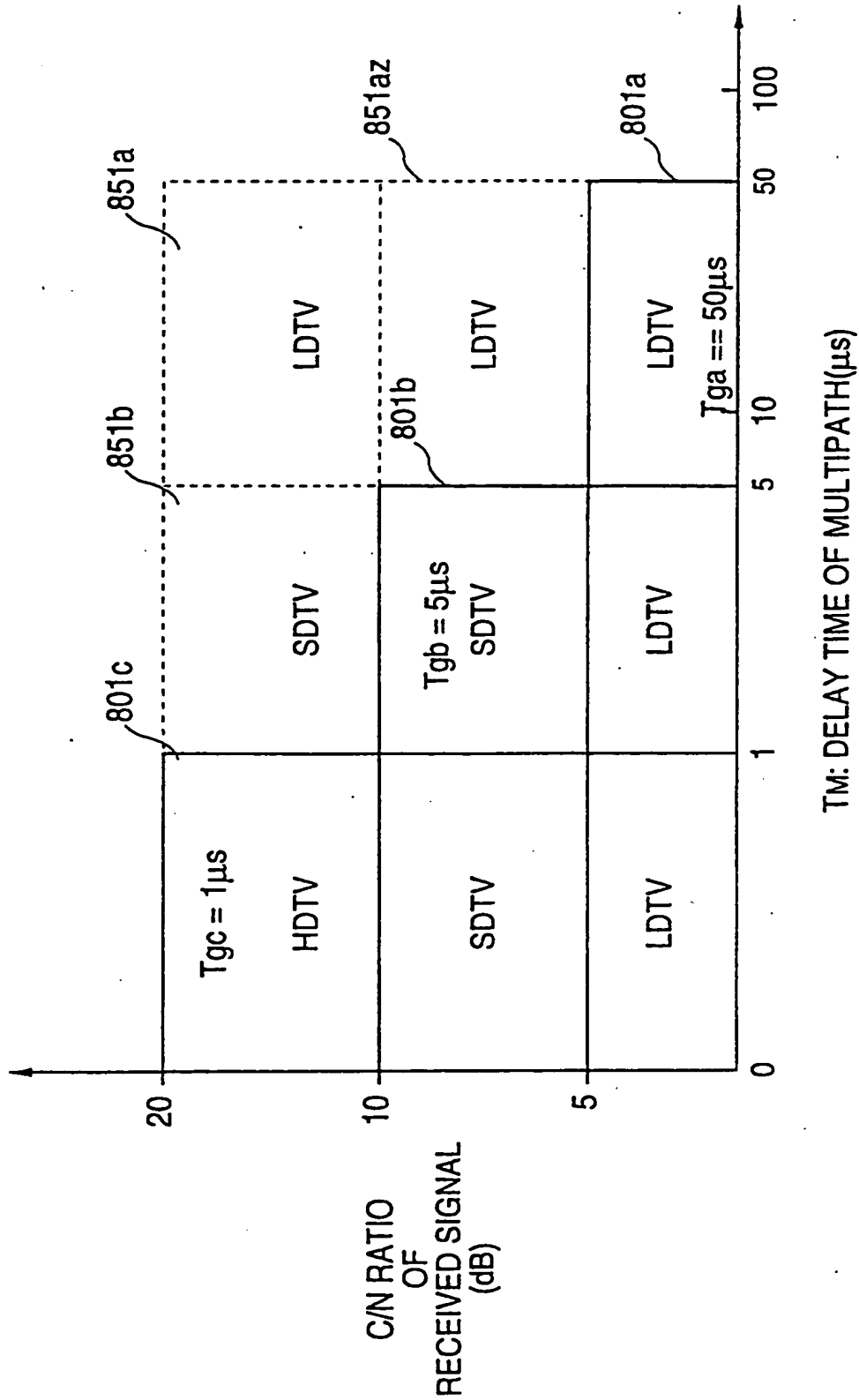


FIG. 152

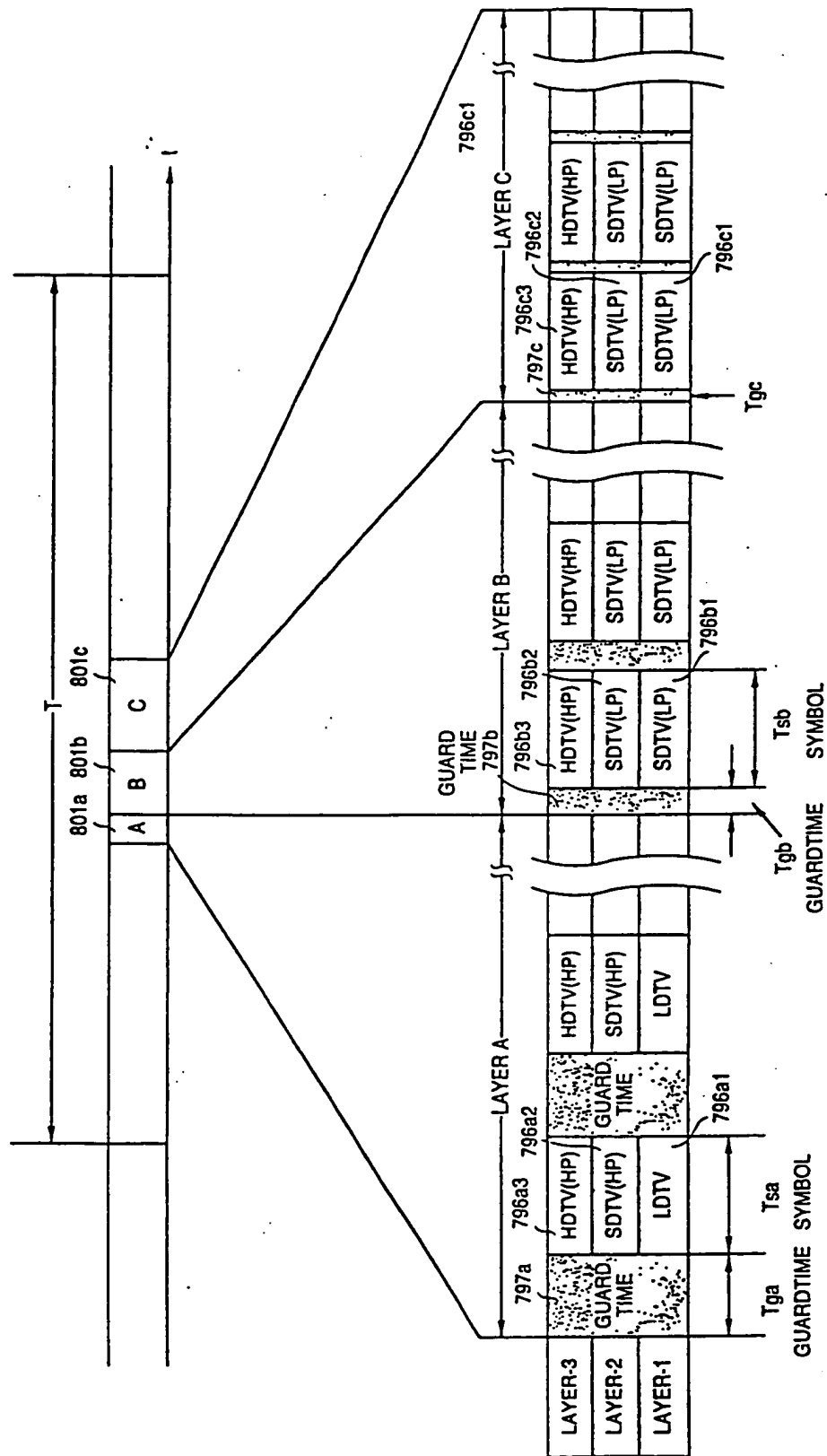
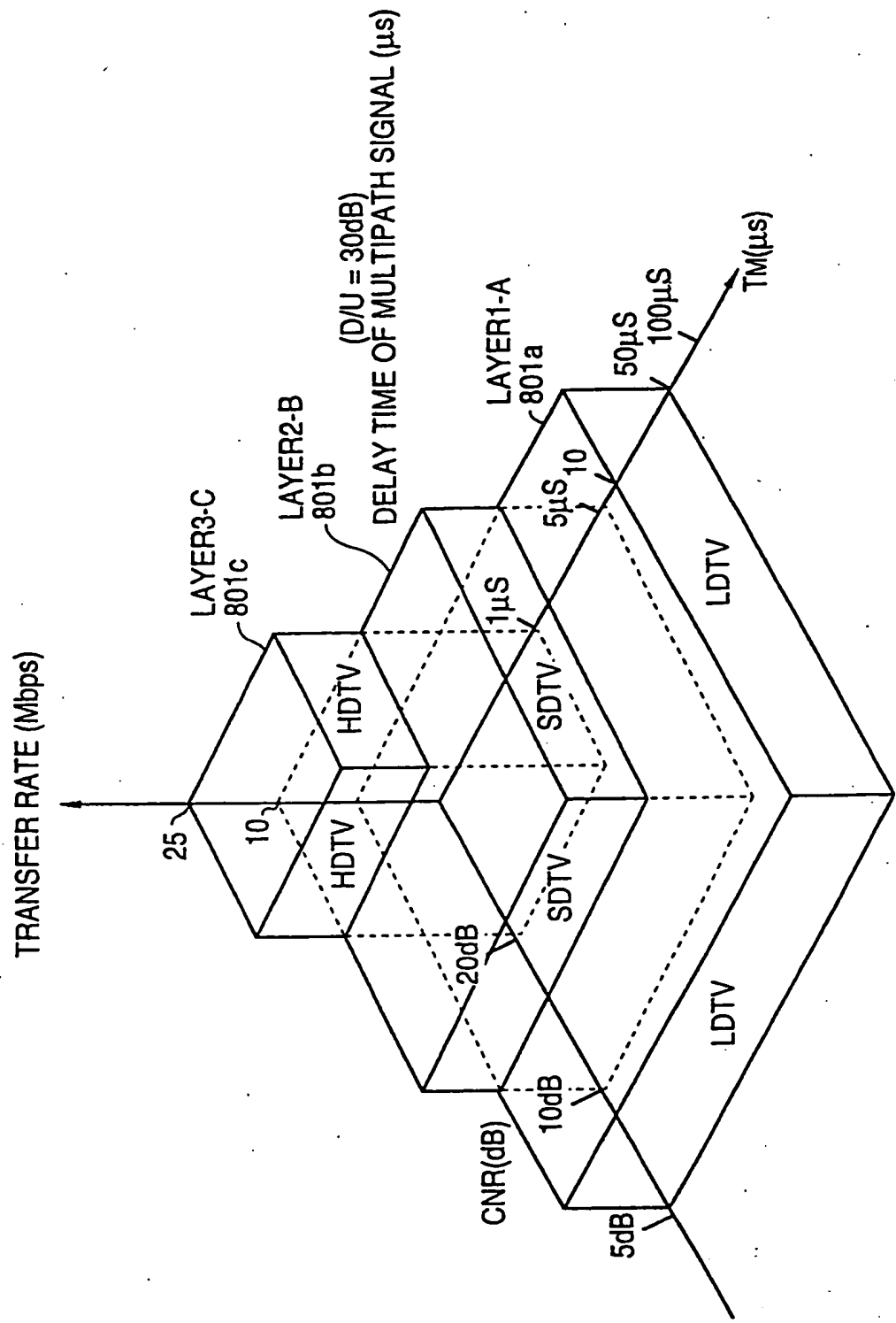


FIG. 153



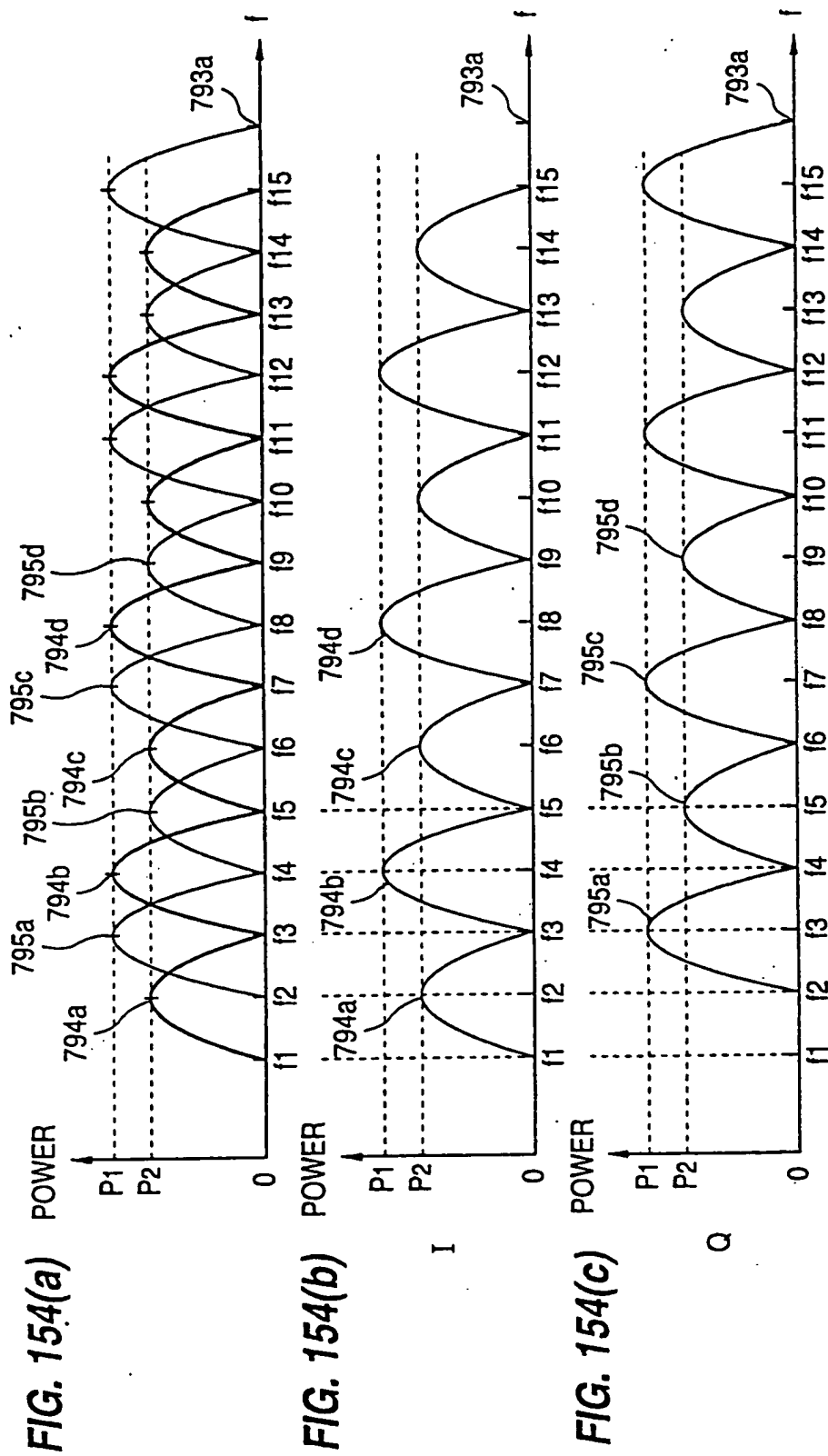


FIG. 155

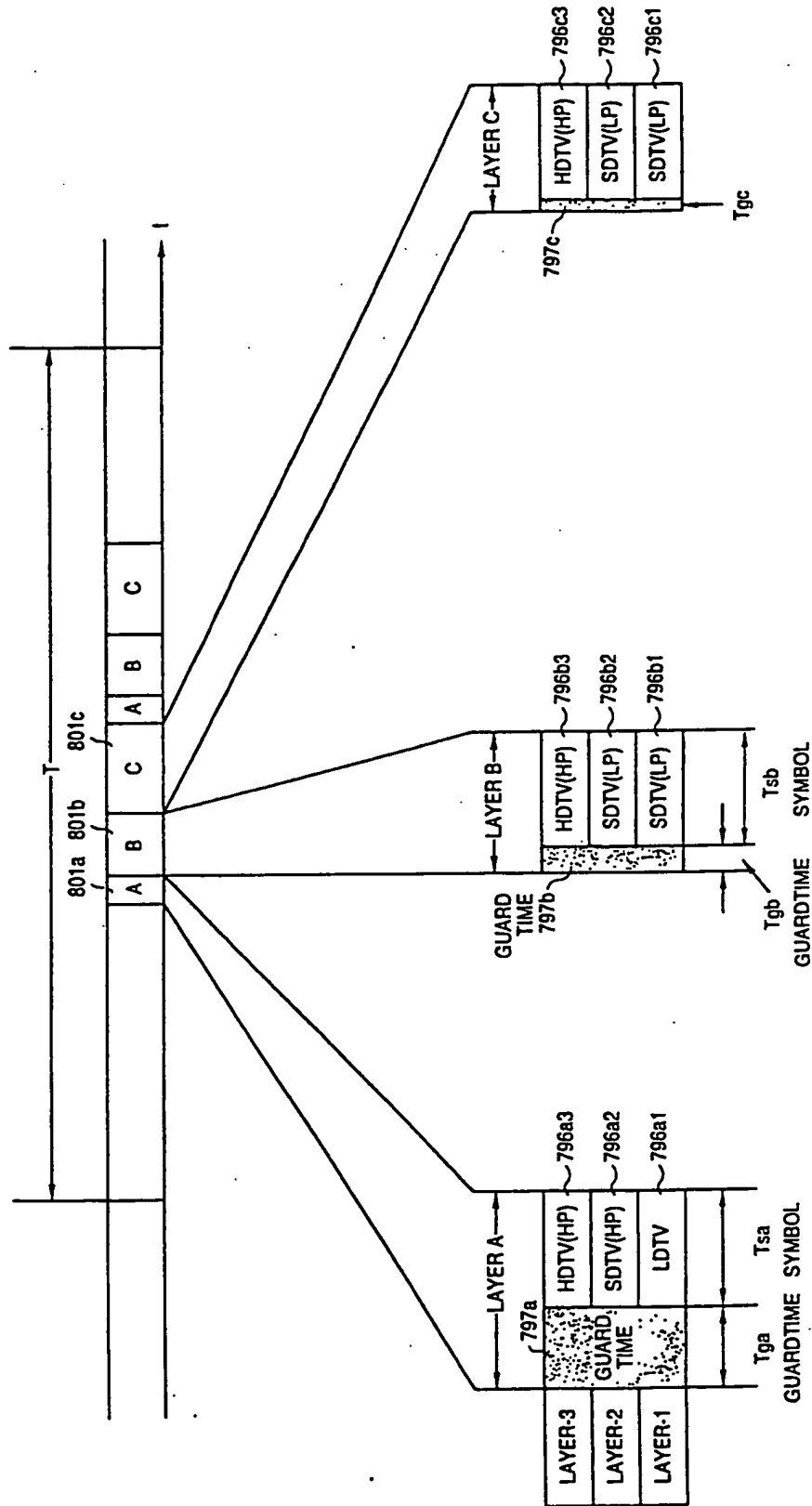


FIG. 156

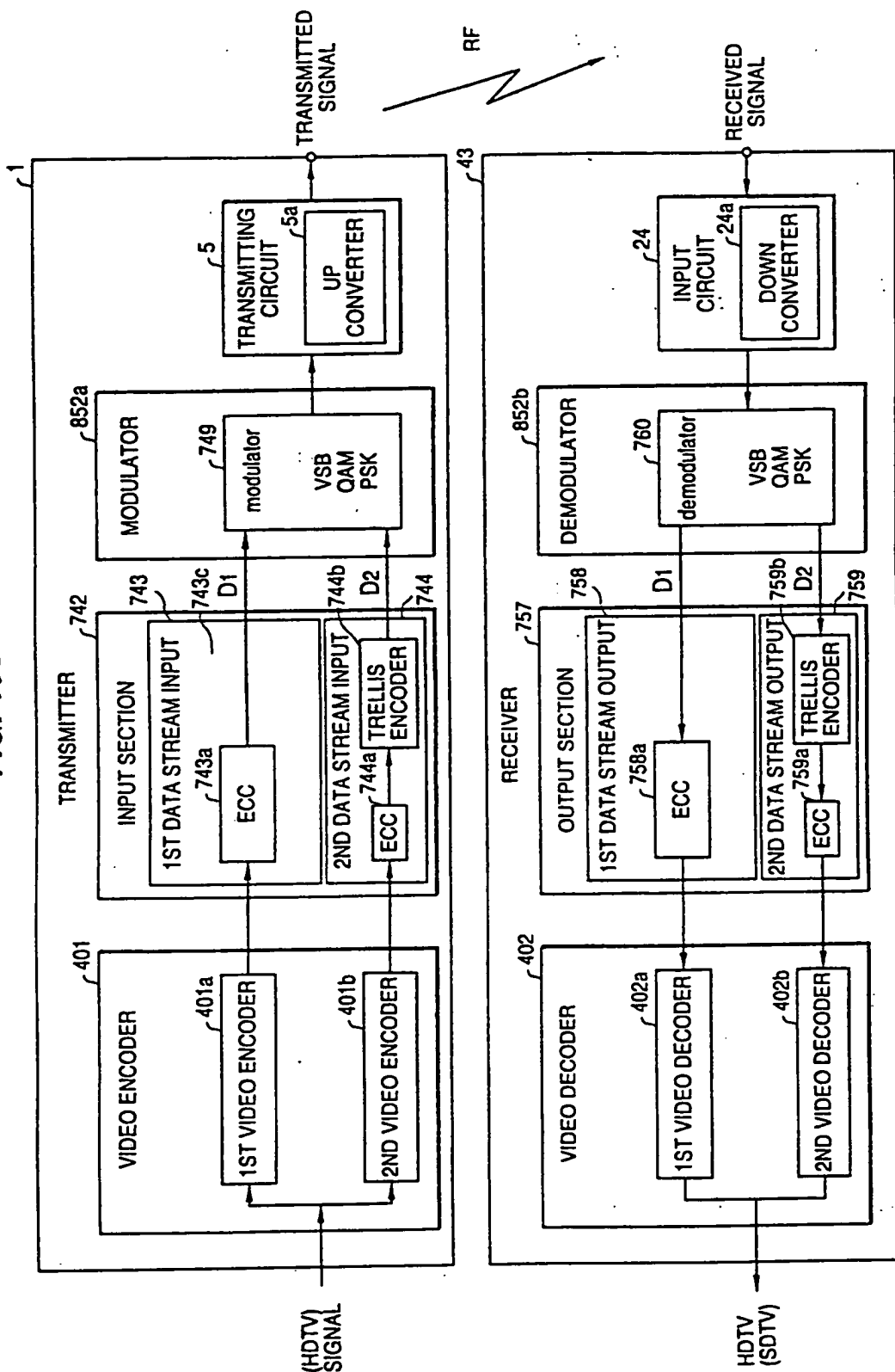


FIG. 157

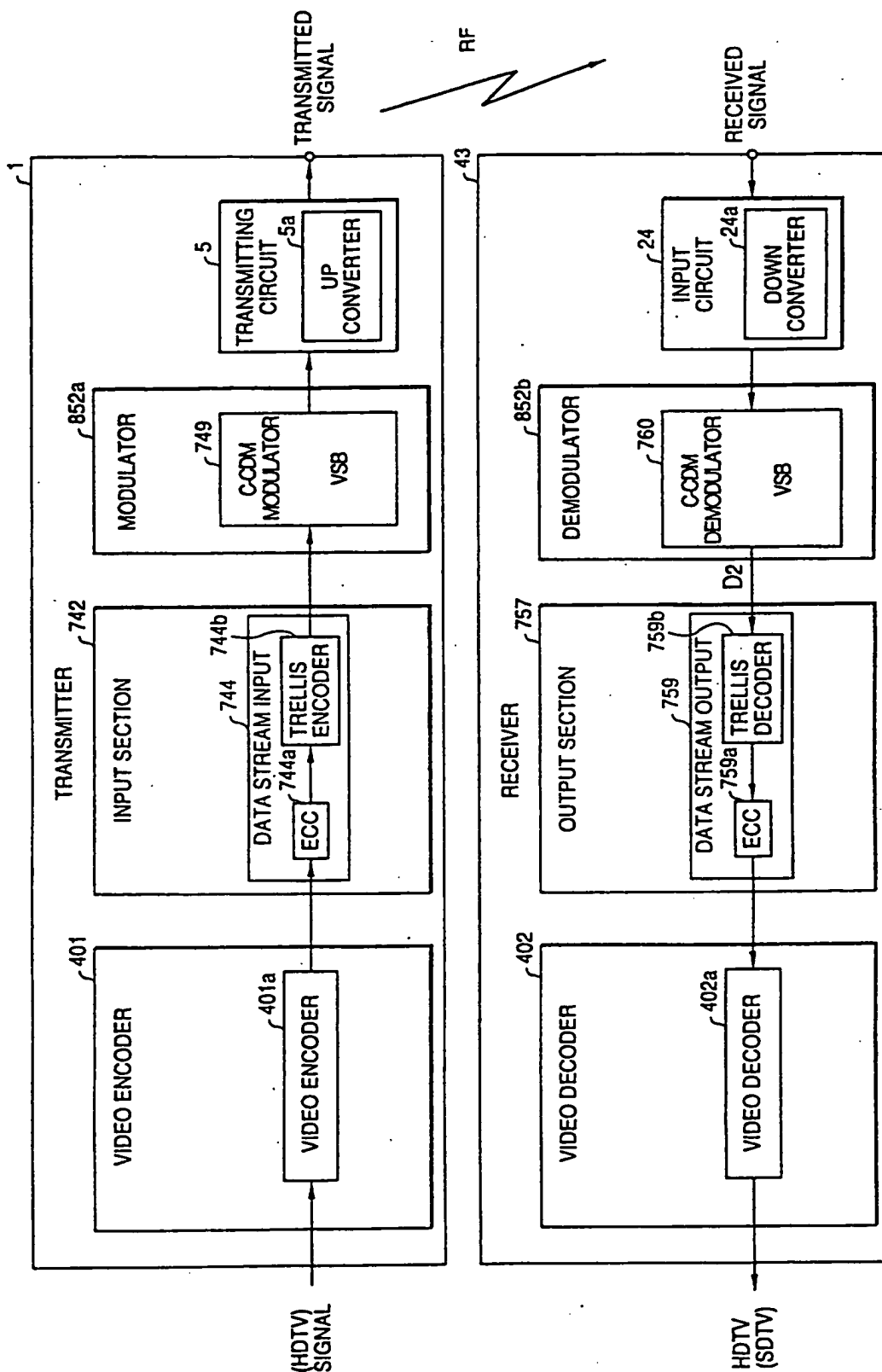
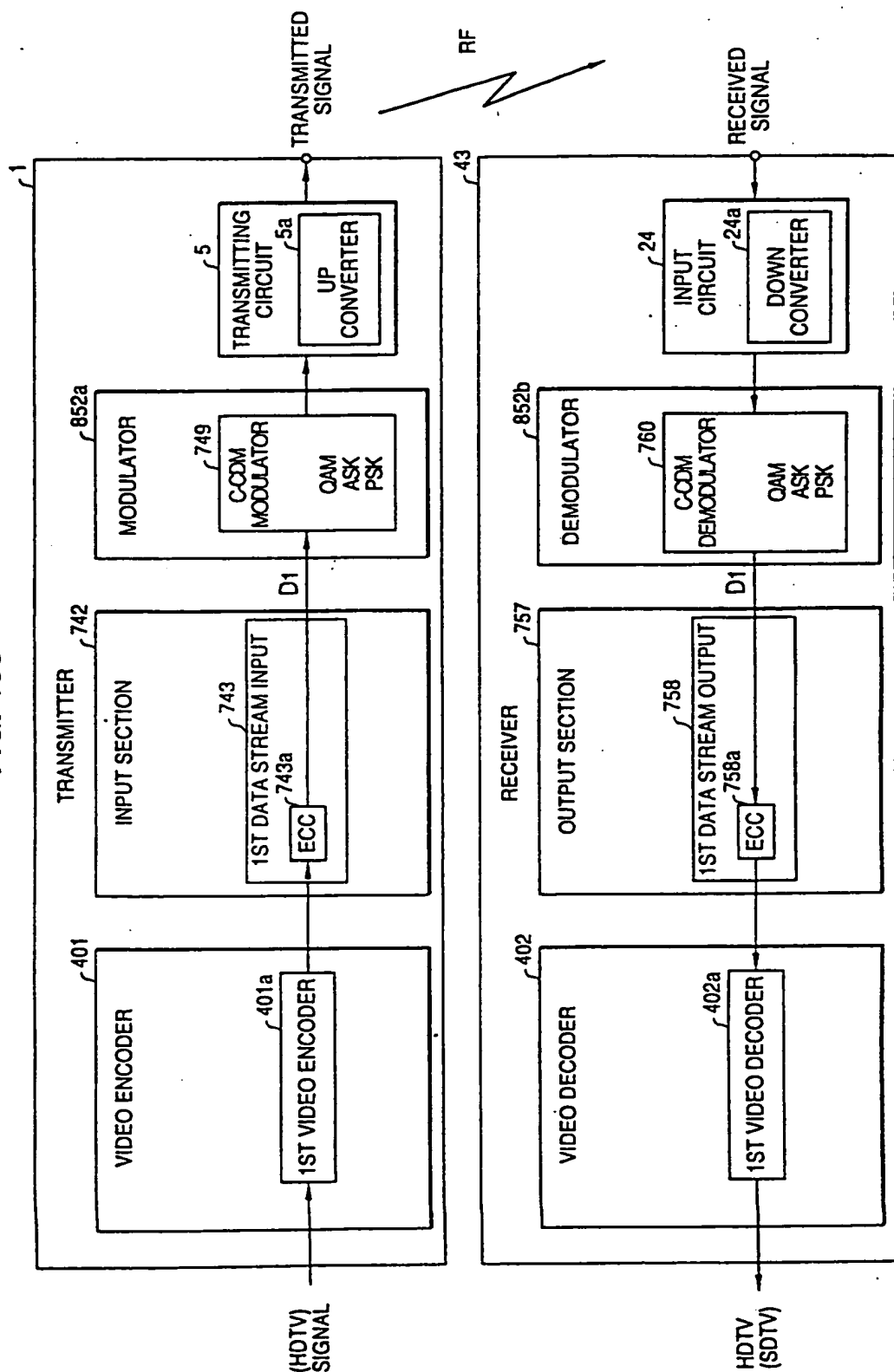


FIG. 158



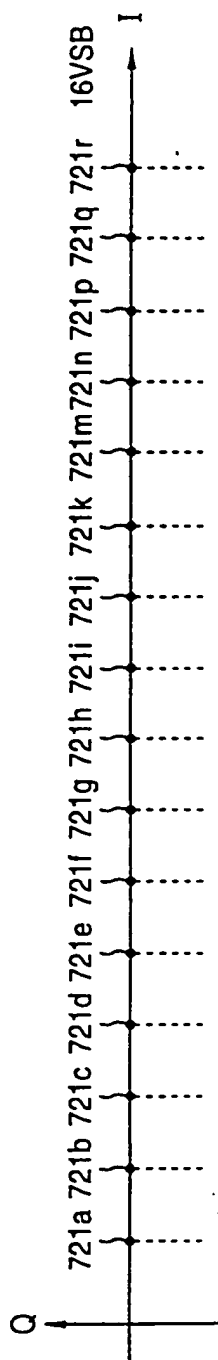


FIG. 159(a)

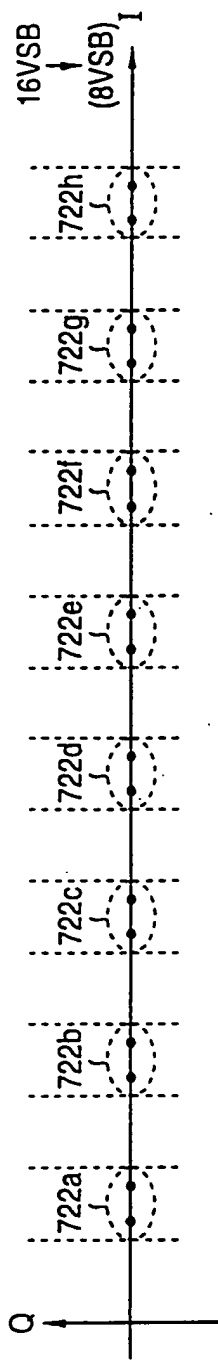


FIG. 159(b)

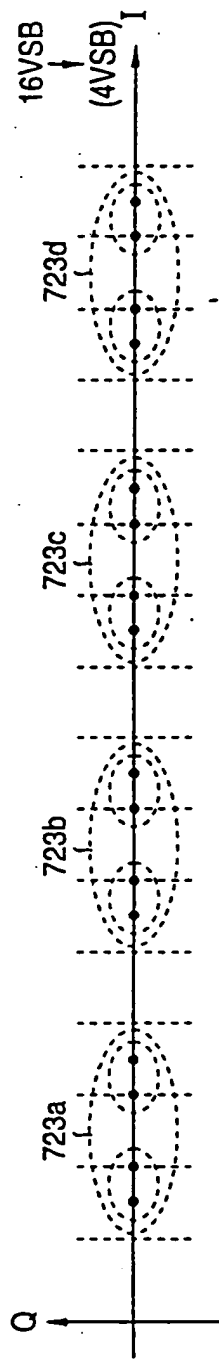


FIG. 159(c)

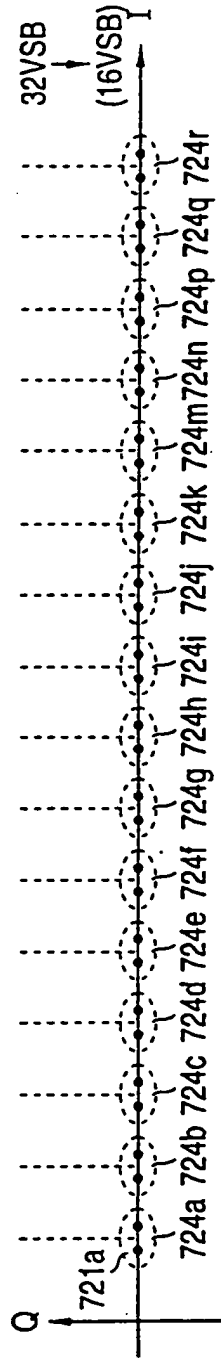


FIG. 159(d)

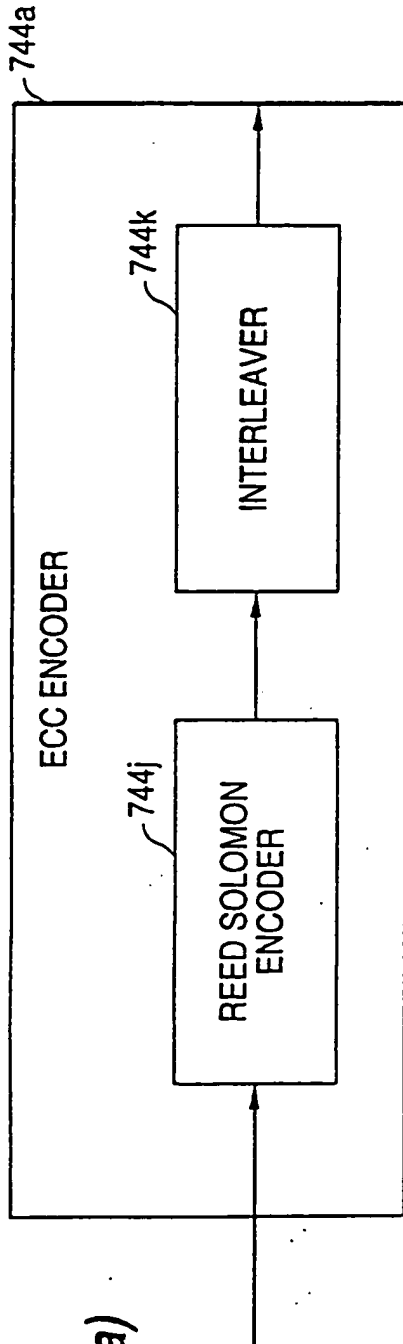


FIG. 160(a)

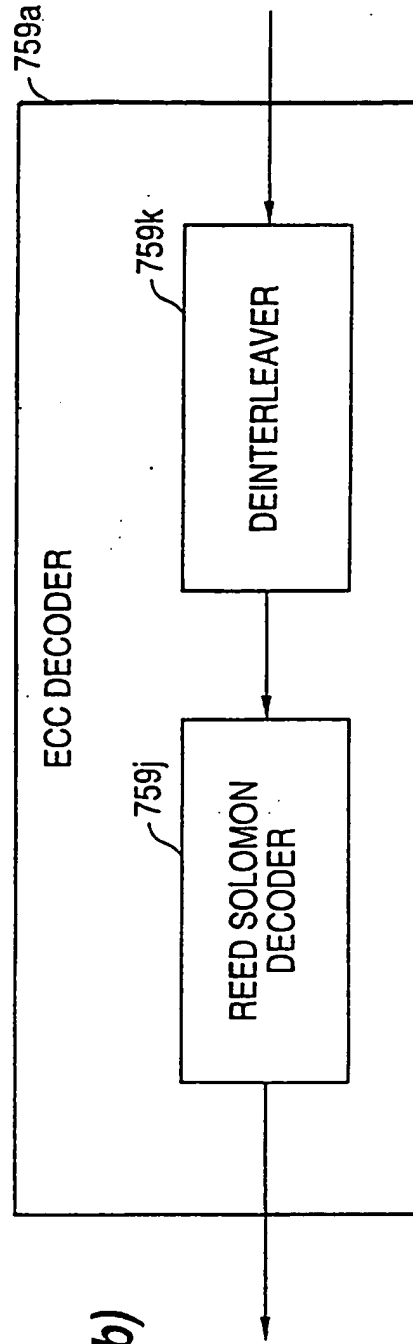


FIG. 160(b)

FIG. 161

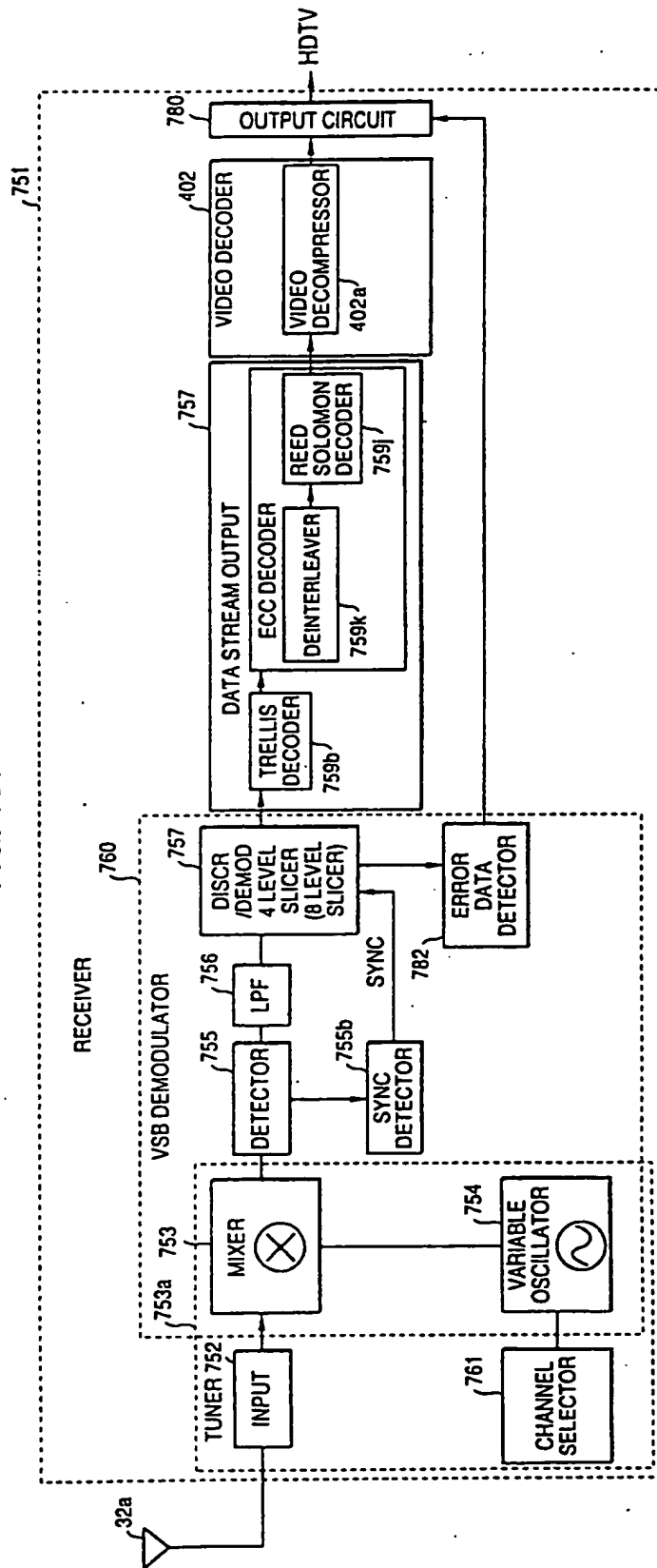


FIG. 162

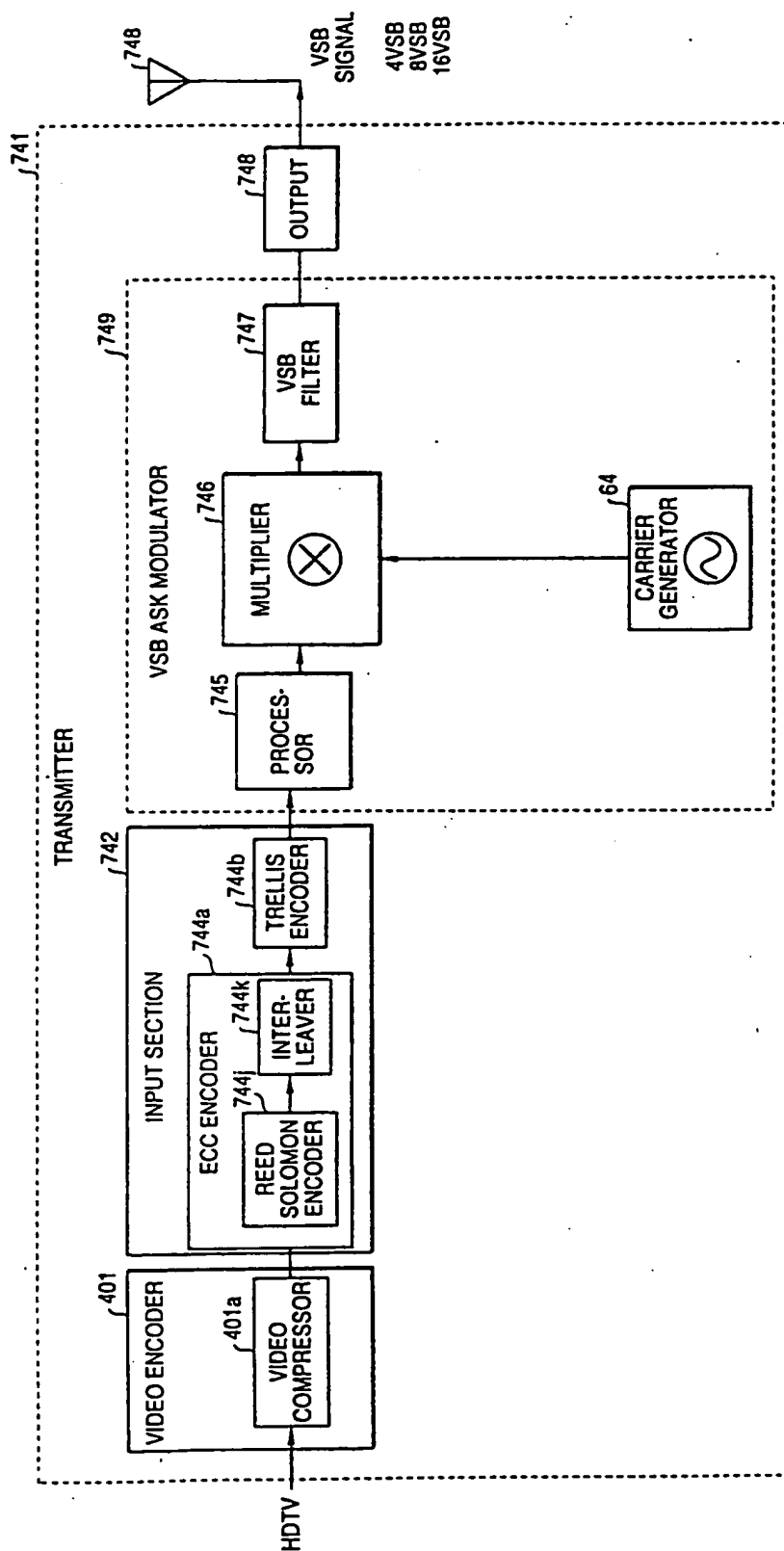


FIG. 163

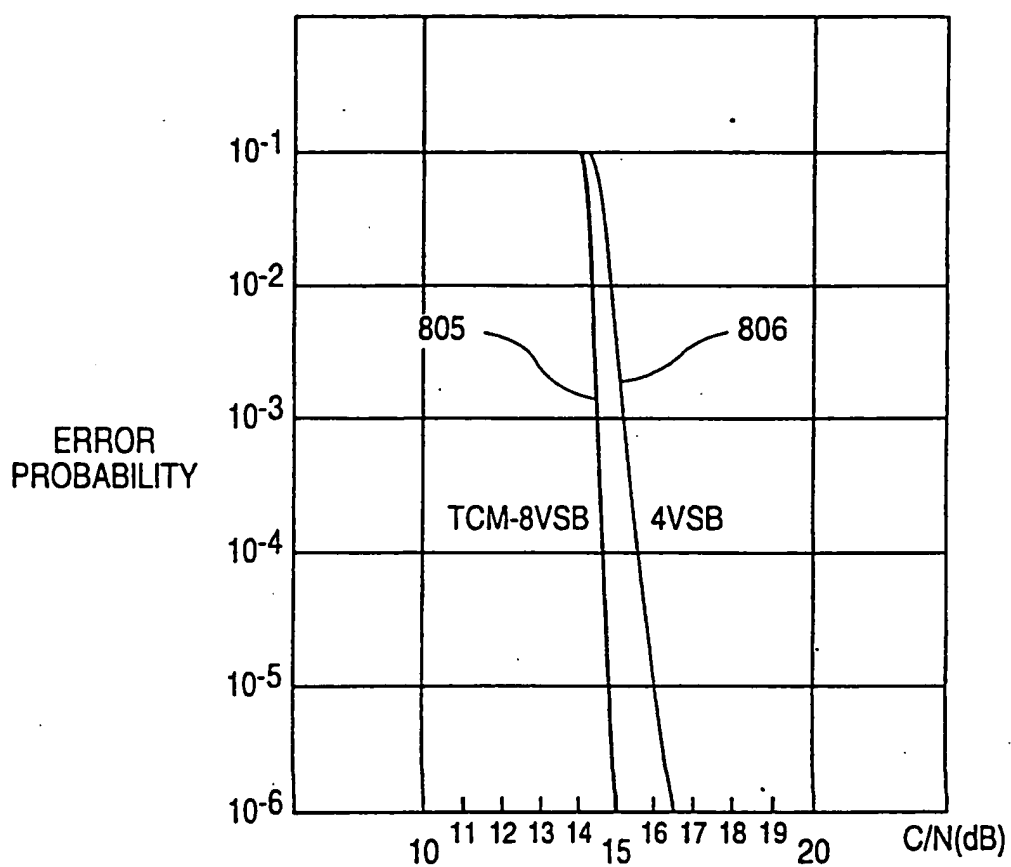


FIG. 164

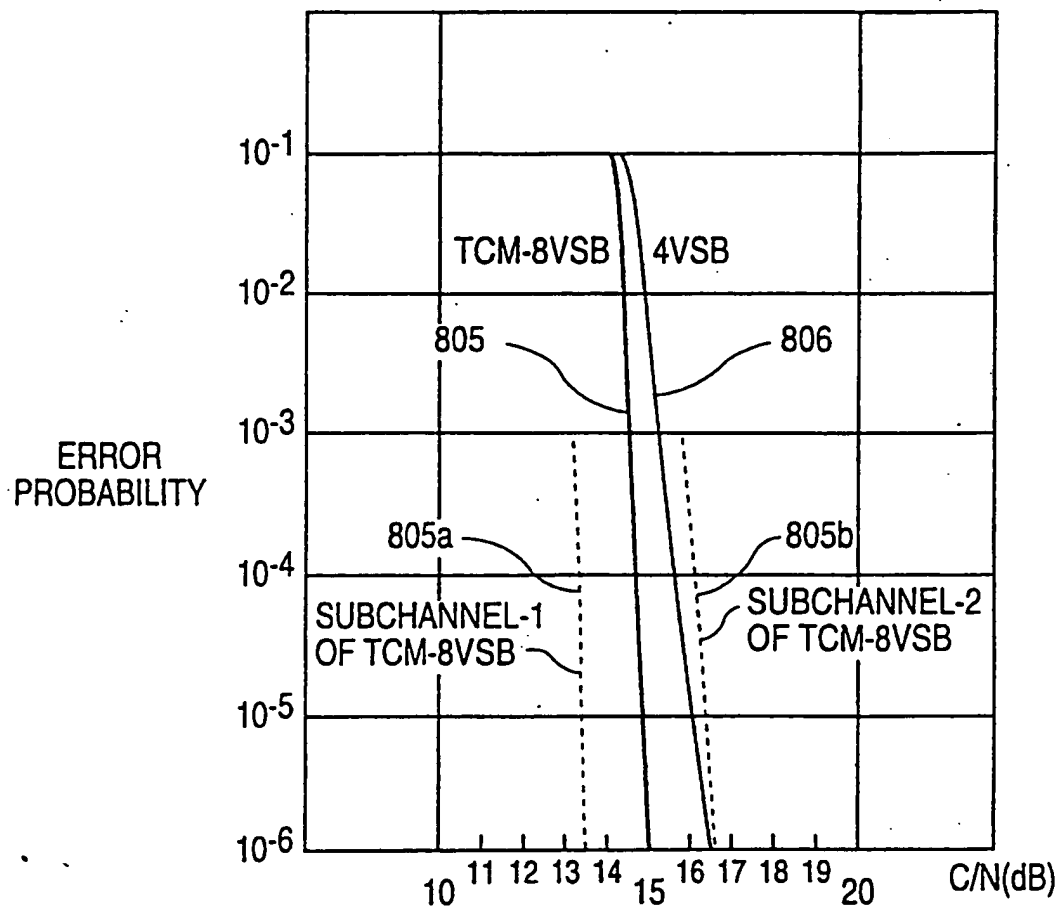


FIG. 165(a)

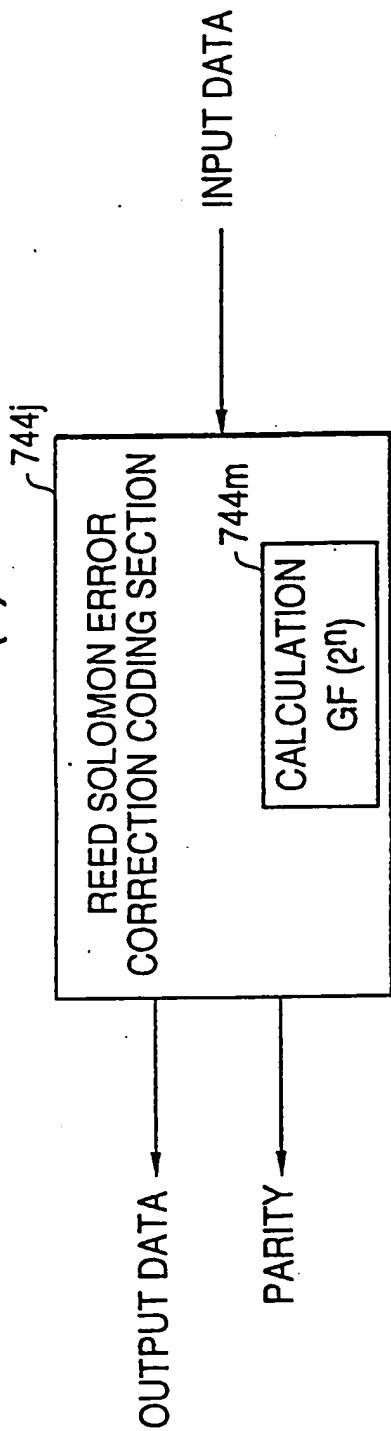


FIG. 165(b)

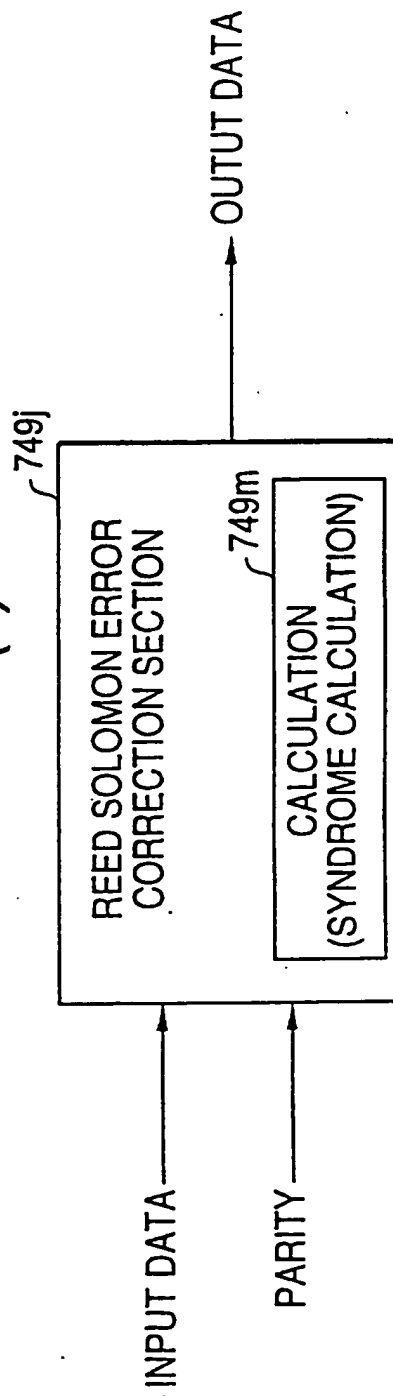


FIG. 166

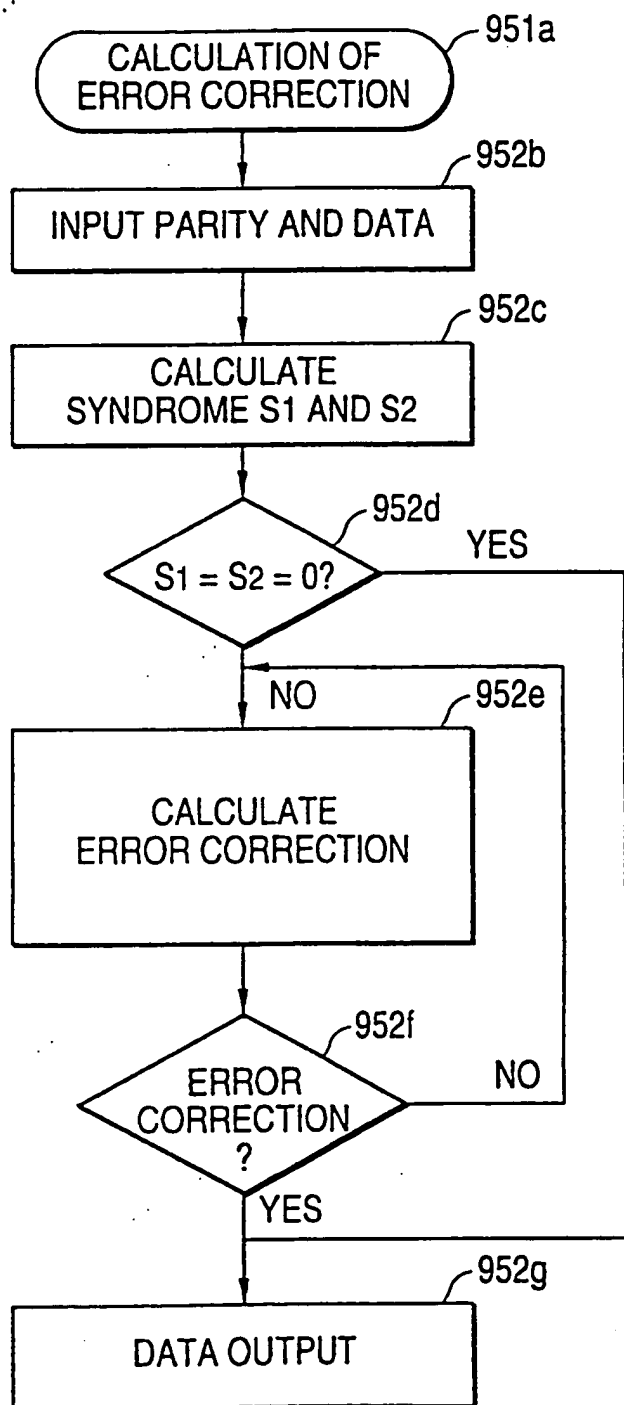


FIG. 167

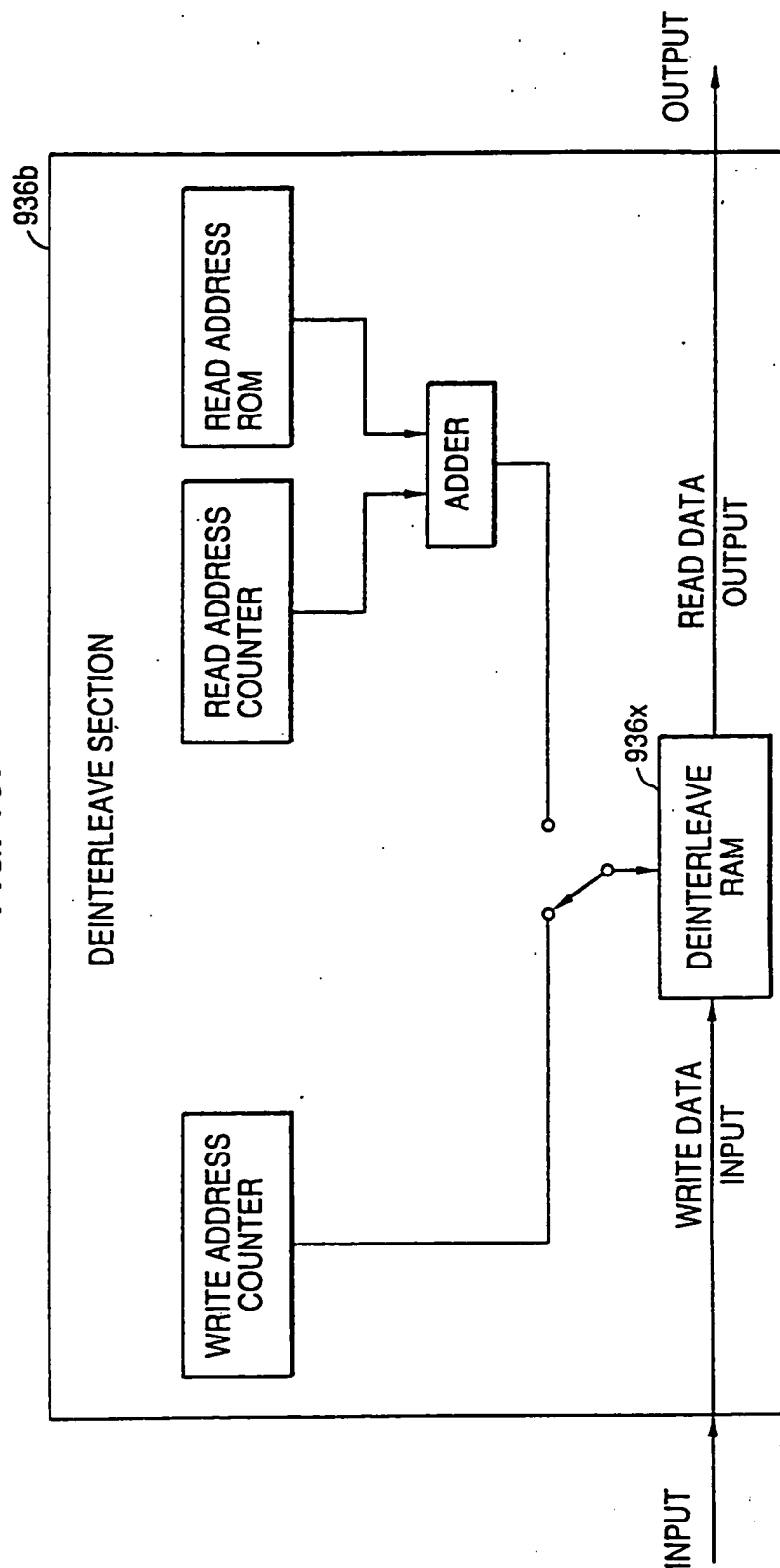


FIG. 168(a)

INTERLEAVE TABLE

1	2	3	4	5	6	7
DATA						C2 PARITY
1	A 1	A 2	A 3	A 4	A 5	A 6
2	B 1	B 2	B 3	B 4		
3	C 1					
4	D 1					
5	E 1					
6	F 1					
C1 PARITY	PARITY	PARITY	PARITY	PARITY	PARITY	PARITY

FIG. 168(b)

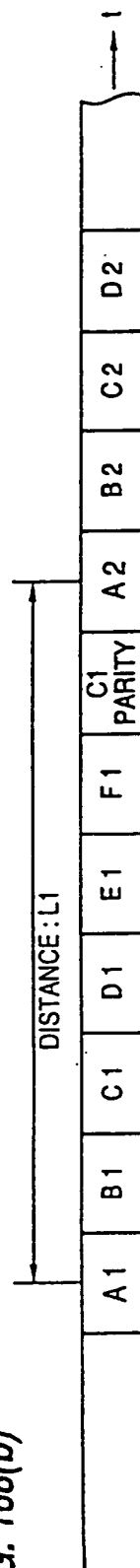


FIG. 169 (Amended)

COMPARISON OF REDUNDANCY

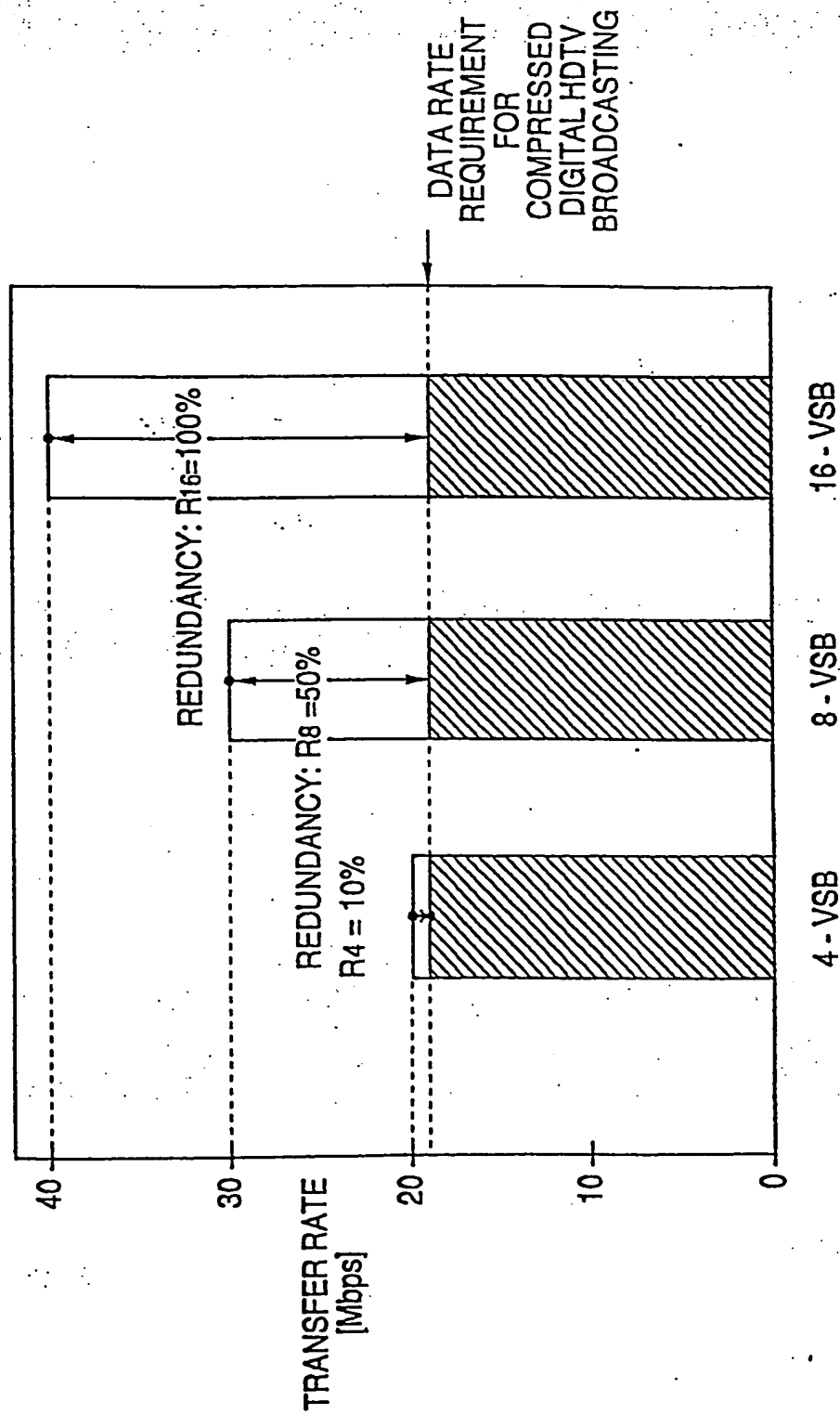


FIG. 170

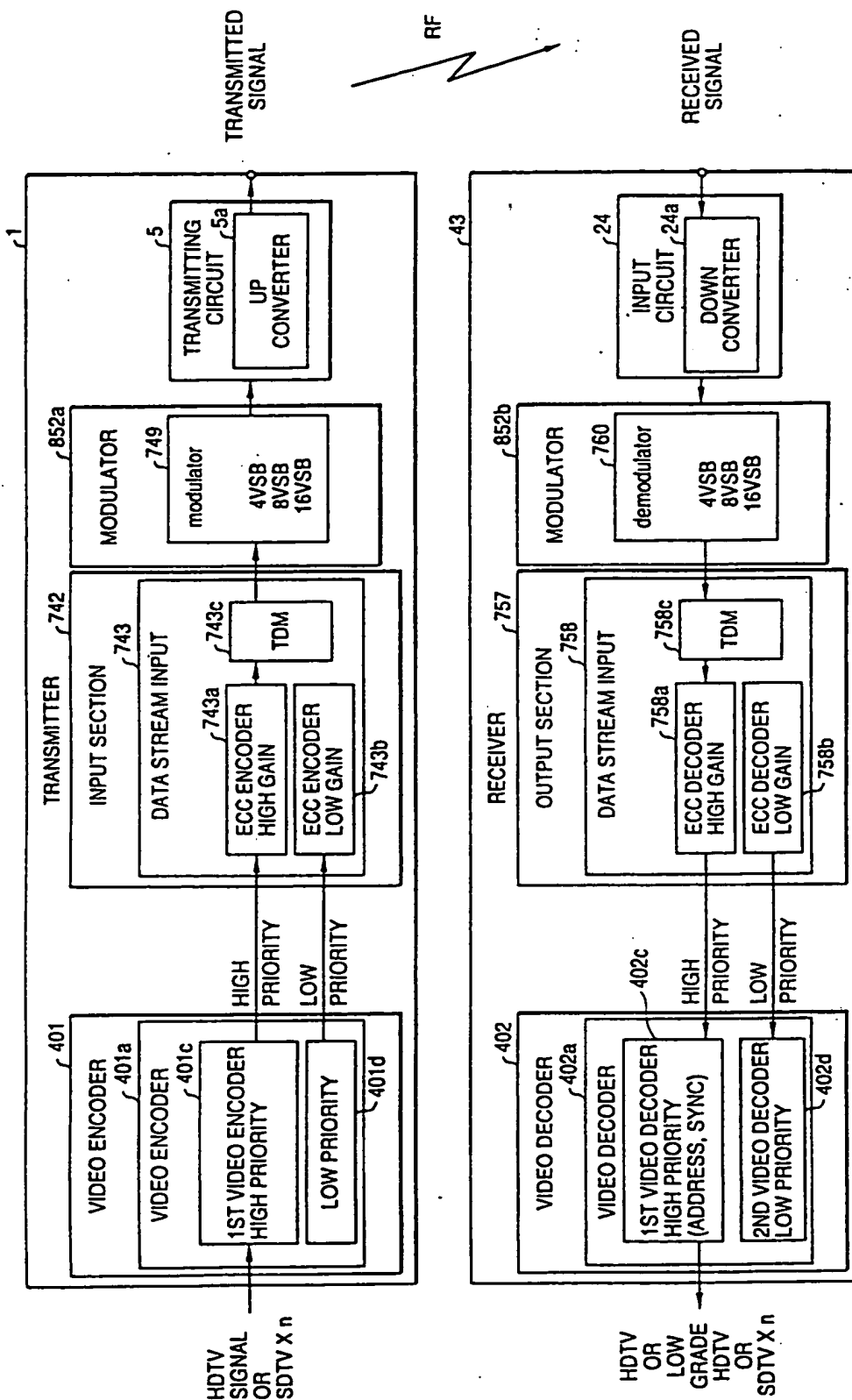


FIG. 171

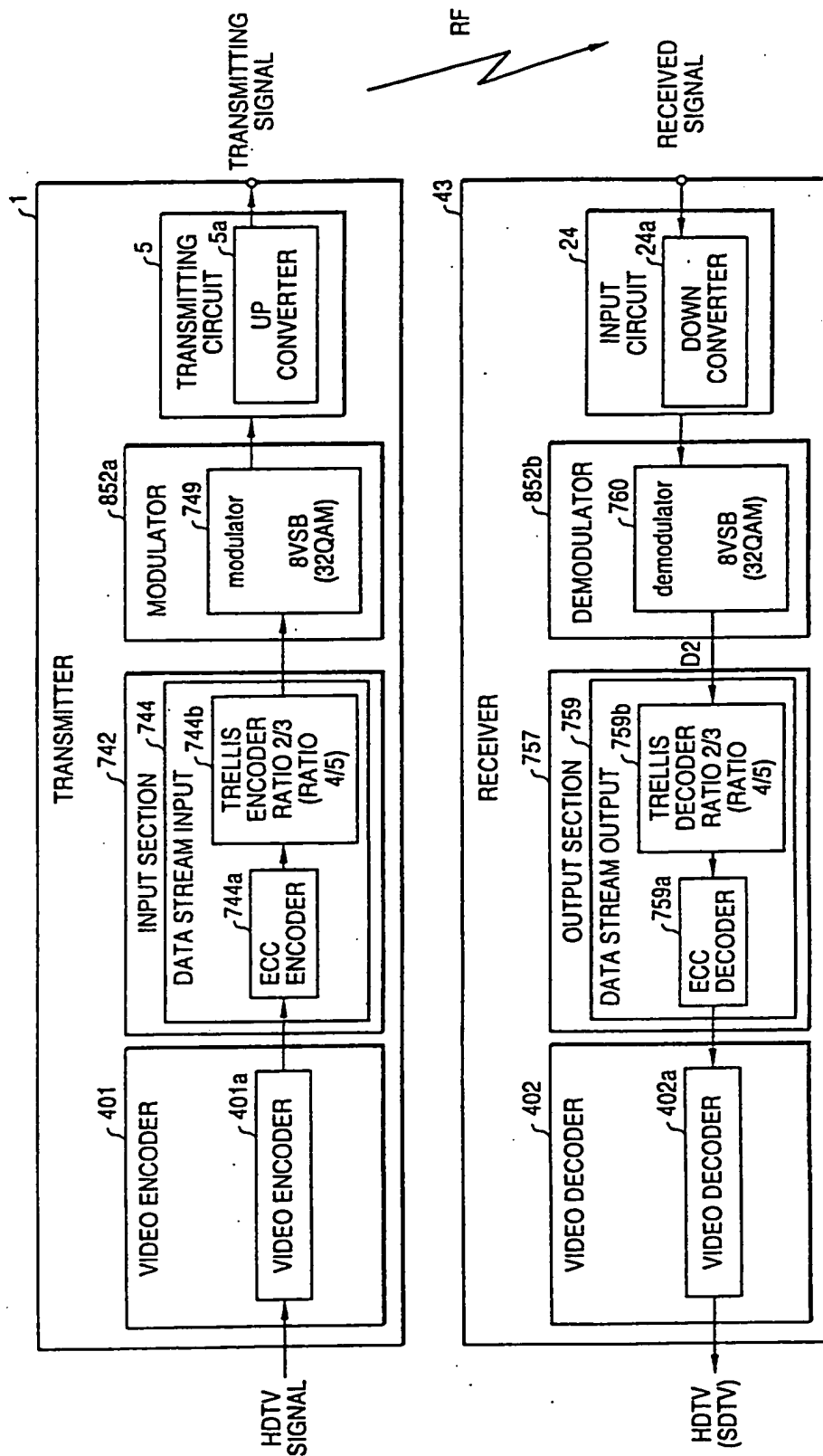


FIG. 172

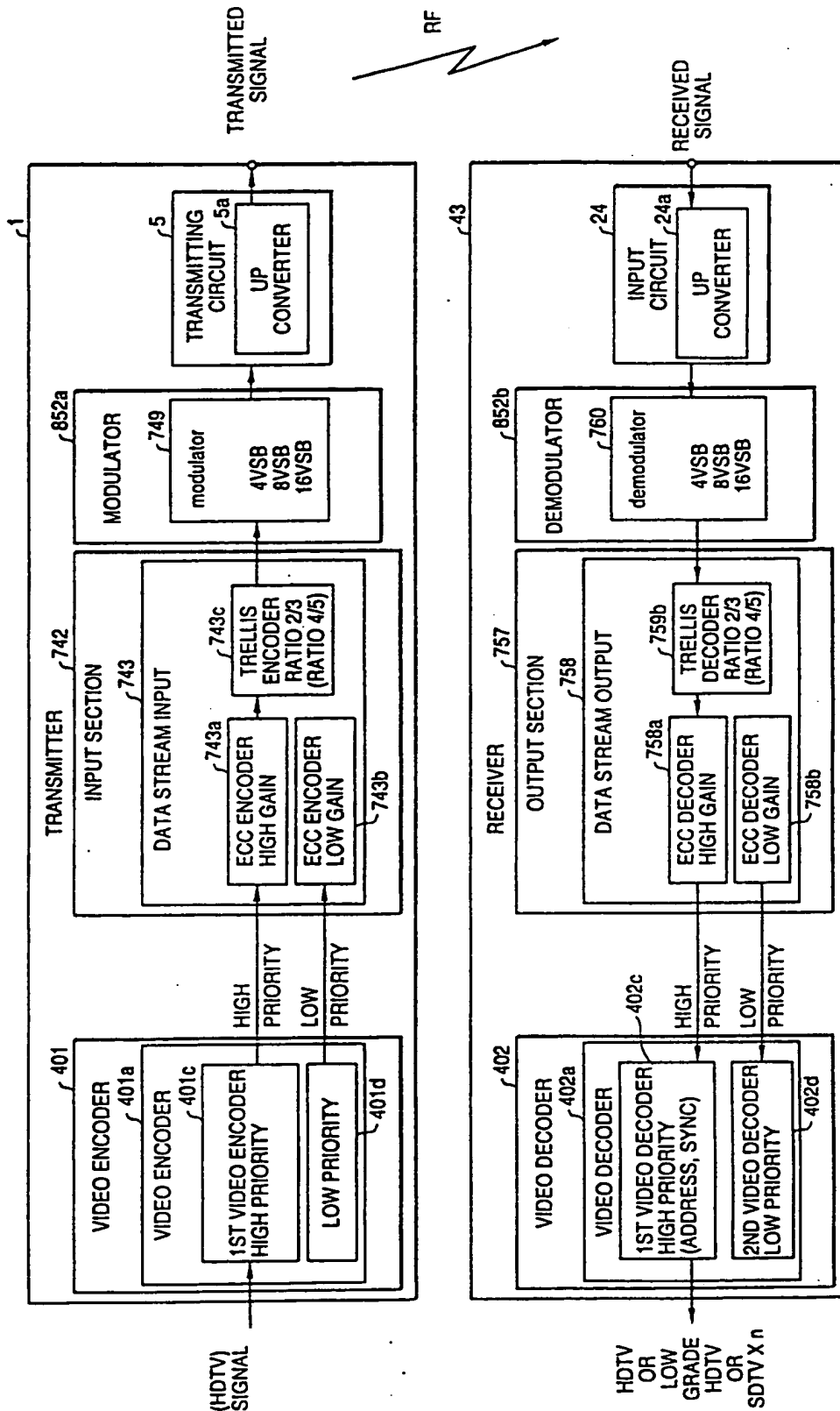


FIG. 173

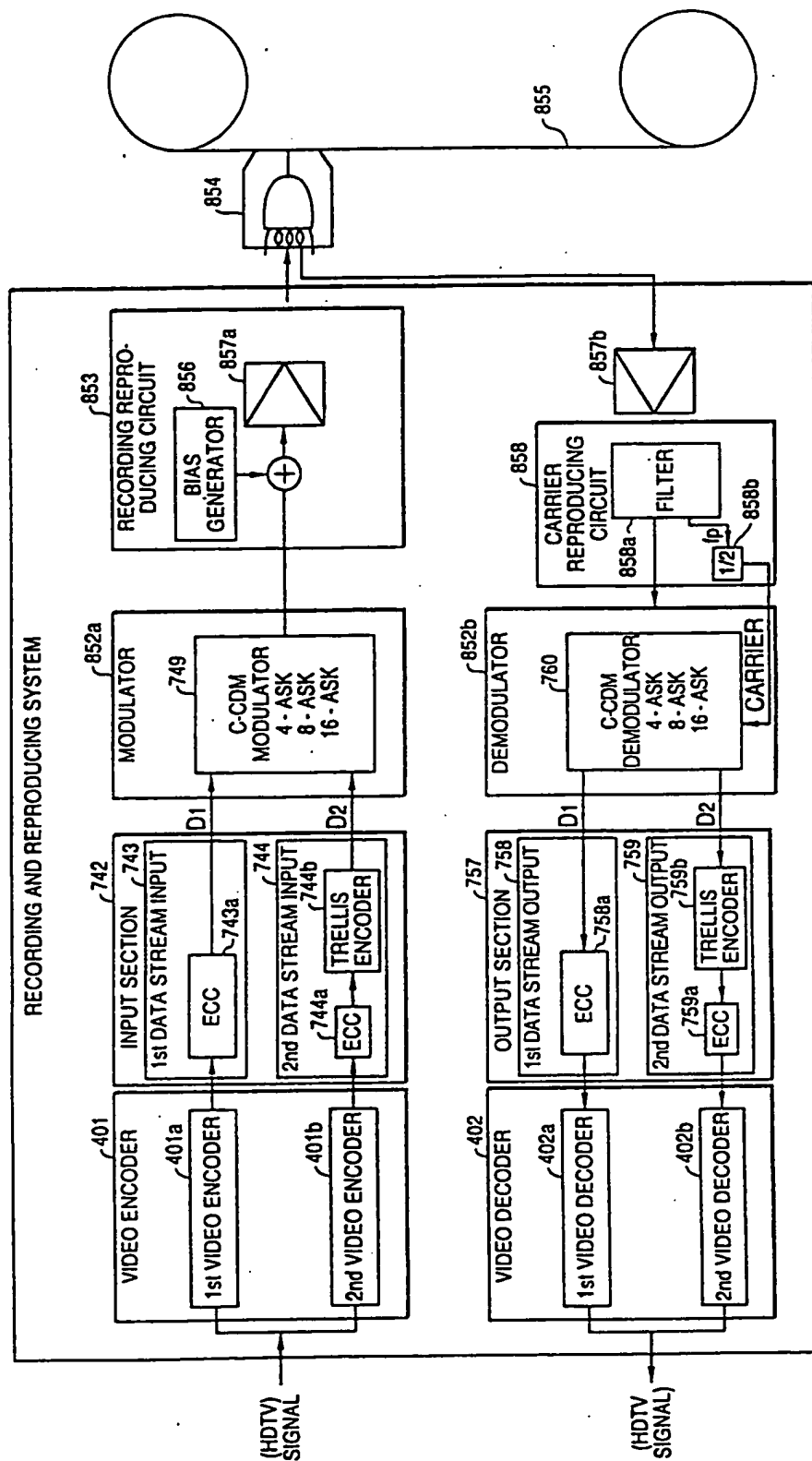


FIG. 174

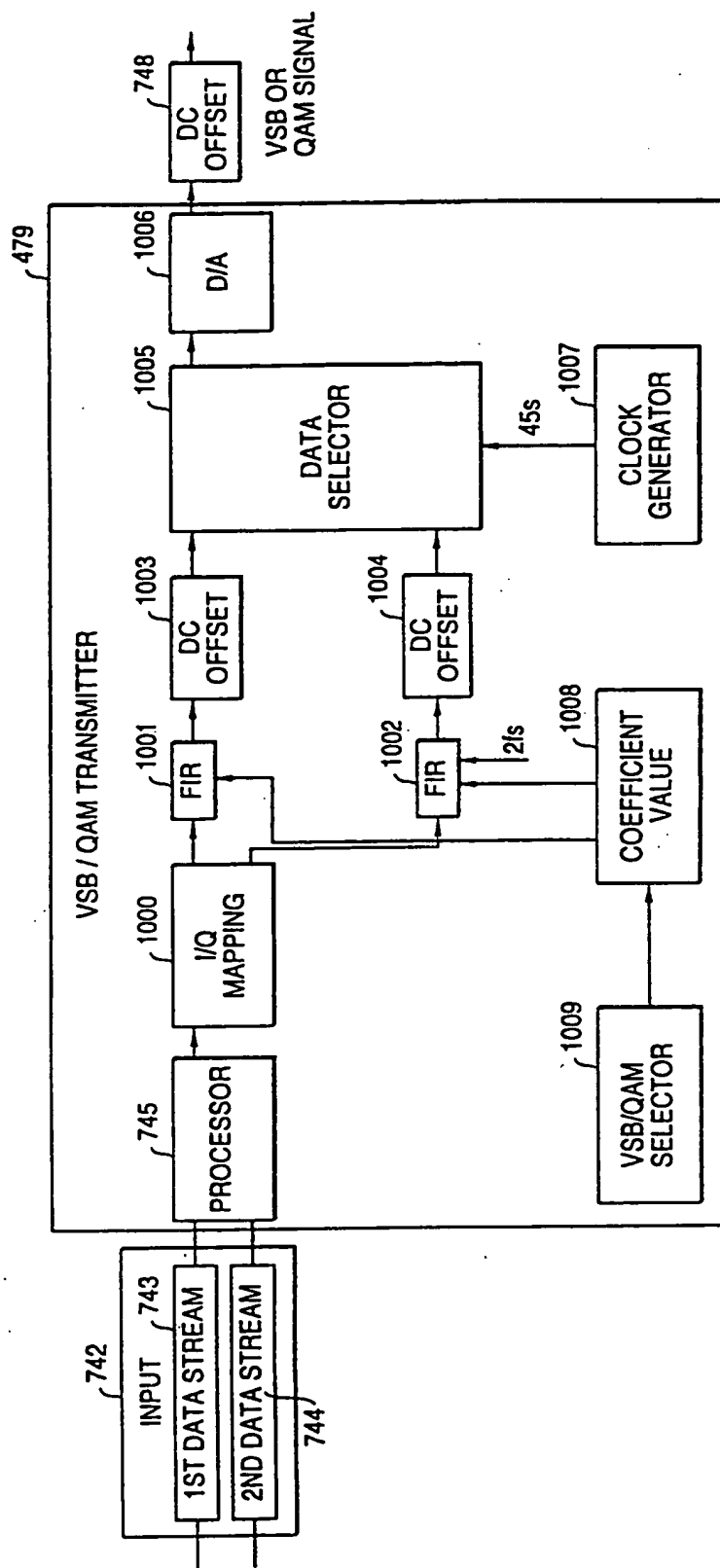


FIG. 175

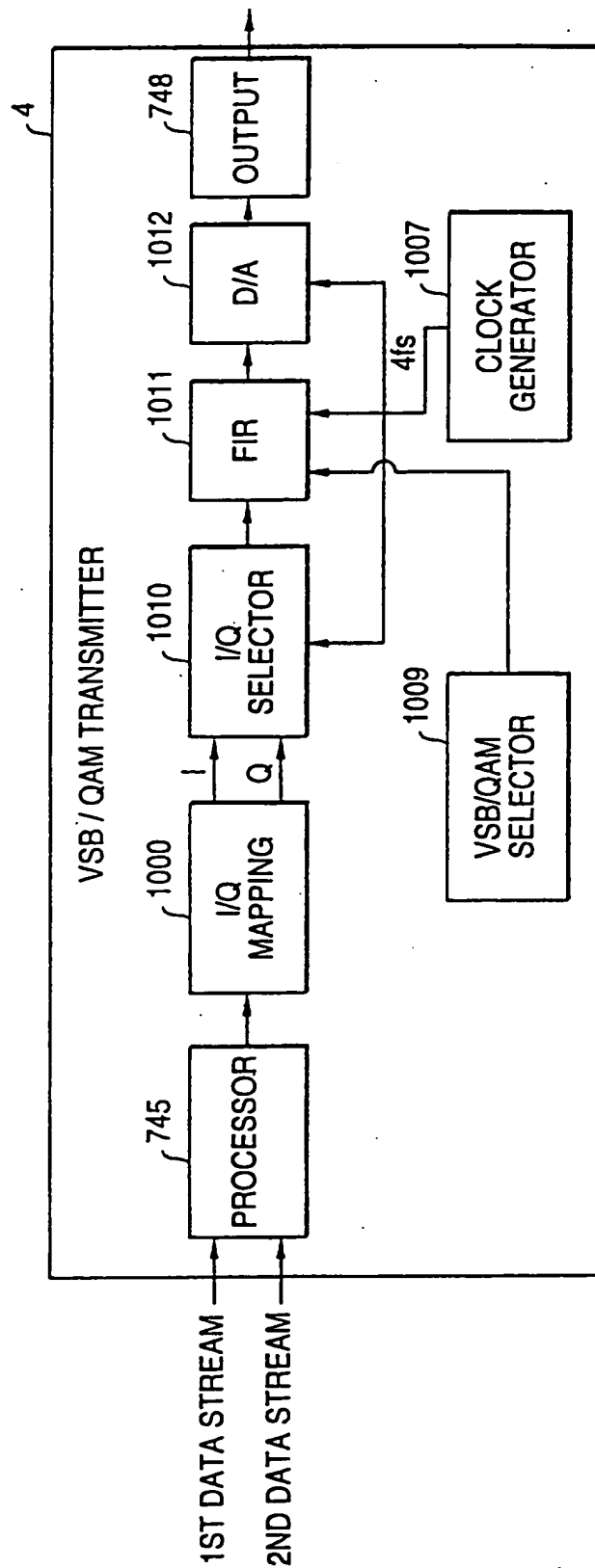


FIG. 176

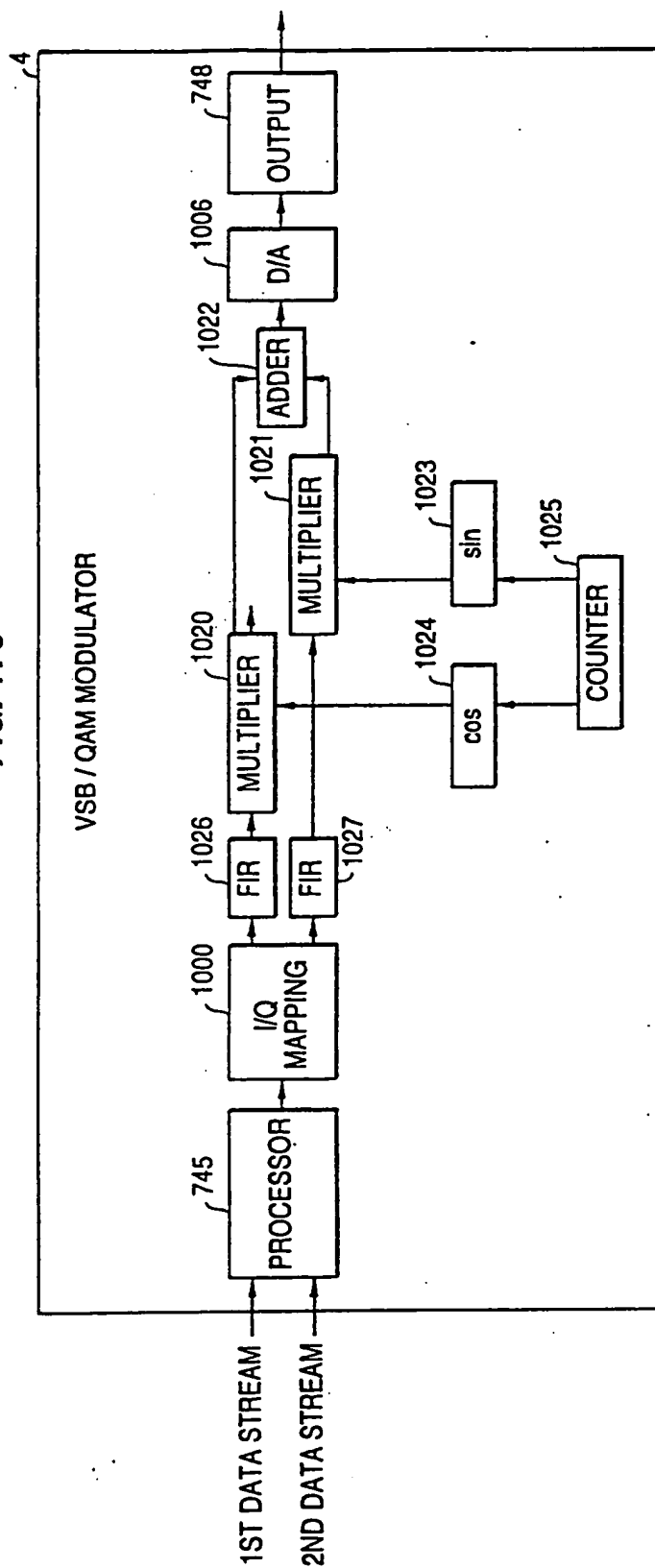


FIG. 177

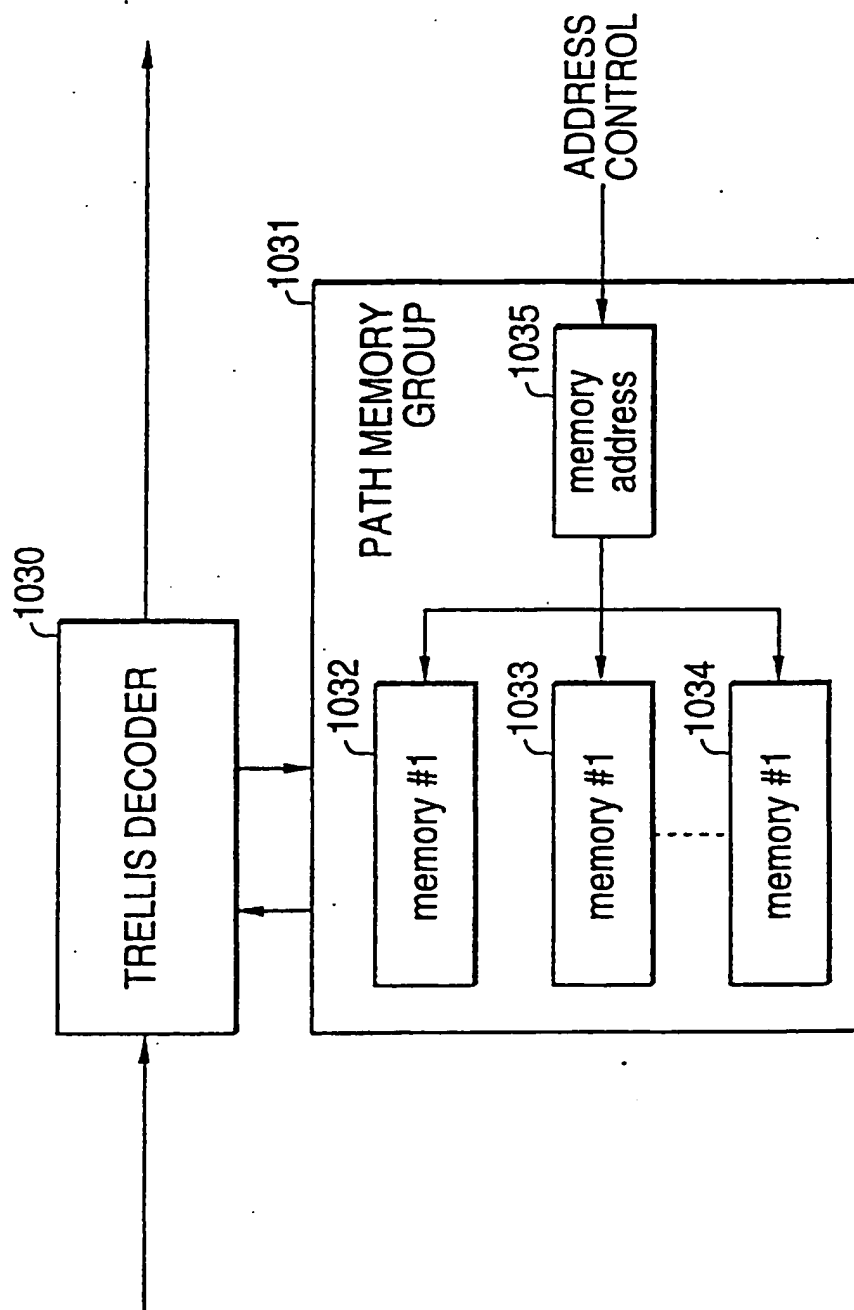


FIG. 178

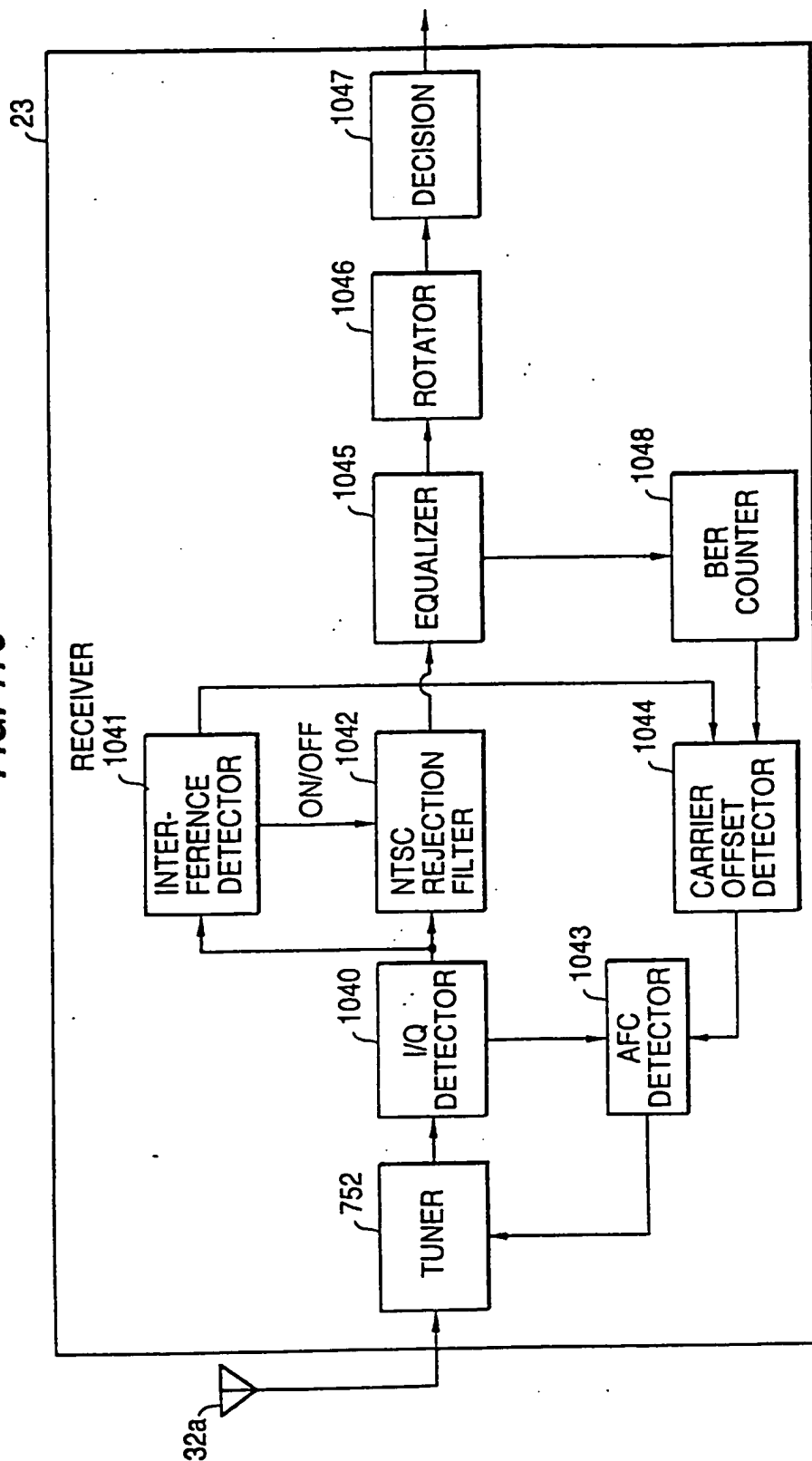


FIG. 179

